99th Congress
1st Session

JOINT COMMITTEE PRINT

S. PRT.
99-103

# JAPAN'S ECONOMY AND TRADE WITH THE UNITED STATES

## SELECTED PAPERS

SUBMITTED TO THE

## SUBCOMMITTEE ON ECONOMIC GOALS AND INTERGOVERNMENTAL POLICY

OF THE

## JOINT ECONOMIC COMMITTEE
## CONGRESS OF THE UNITED STATES

DECEMBER 9, 1985

Printed for the use of the Joint Economic Committee

U.S. GOVERNMENT PRINTING OFFICE
50-580 O
WASHINGTON : 1985

J842-31

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# LETTER OF TRANSMITTAL

NOVEMBER 29, 1985.

Hon. DAVID R. OBEY,
*Chairman, Joint Economic Committee,*
*Congress of the United States, Washington, DC.*

DEAR MR. CHAIRMAN: Transmitted herewith is a volume of studies on the Japanese economy and its relations with the United States entitled "Japan's Economy and Trade With the United States." The studies were written by specialists on Japan who are affiliated with universities, research organizations, libraries, and agencies of the Federal Government.

The volume was edited by Dick K. Nanto, Specialist in International Trade and Finance, of the Economics Division. Marietta L. Sharperson and Paula M. Saunders were the editorial assistants on the project, while R. Kevin Flaherty and Lawrence Arabian provided reference and proofreading assistance. The project was supervised for the Joint Economic Committee by George R. Tyler.

Views expressed in the papers, with the exception of those from the Congressional Research Service, are those of the individual authors and do not necessarily represent the views of their organizations or the members of the Joint Economic Committee.

Sincerely,

LLOYD BENTSEN,
*Vice Chairman, Subcommittee on Economic Goals*
*and Intergovernmental Policy.*

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## NOTES ON THE AUTHORS

Raymond J. Ahearn is a Specialist in International Trade and Finance with the Economics Division, Congressional Research Service.

Michael Borrus is a lecturer at the University of California, Berkeley, and the Deputy Director of the Berkeley Roundtable on the International Economy.

McClellan A. Dubois is a Special Assistant to the Under Secretary for International Trade, U.S. Department of Commerce.

R. Kevin Flaherty is a Research Assistant with the Economics Division, Congressional Research Service.

Martha Caldwell Harris is a Senior Analyst with the U.S. Office of Technology Assessment.

Margaret A. McGregor is an International Economist with the U.S. General Accounting Office.

Katsutoshi Murakami is a Researcher with the National Diet Library of Japan.

Dick K. Nanto is a Specialist in International Trade and Finance with the Economics Division, Congressional Research Service.

Aoi Nawashiro is a Researcher with the National Diet Library of Japan.

Larry A. Niksch is a Specialist in Asian Affairs of the Foreign Affairs and National Defense Division, Congressional Research Service.

Masahiro Sakamoto is Chief Economist, Institute for International Trade, Japan Foreign Trade Council.

Katherine V. Schinasi is an International Economist with the U.S. General Accounting Office.

Lester C. Thurow is a Professor of Economics and Management at the Massachusetts Institute of Technology.

Jon Woronoff is a journalist and author of several books on Japan.

Michael K. Young is a Professor of Law and Director, Center for Japanese Legal Studies, Columbia University.

John Zysman is an Assistant Professor of Political Science at the University of California, Berkeley, and Co-Director of the Berkeley Roundtable on the International Economy.

# INTRODUCTION AND SUMMARY

By Dick K. Nanto

The Japanese economic machine has rumbled onto the world economic scene first as the "Phoenix risen from the ashes" of the 1960s, then the "emerging superstate" of the 1970s, and now the "global economic power" of the 1980s. This development has brought with it both benefits and costs. While the world has benefited from the wide array of export products offered by Japan's manufacturers and from booming markets there for exports of food and raw materials, it also has had to come to grips with a formidable economic challenger, not necessarily nurtured under the same game rules and perhaps a bit more hungry than the rest.

As Japan has grown, its economic relations with the United States have become increasingly strained. A growing bilateral trade imbalance, Japanese protectionism, and rancorous reactions by some American industries subjected to intense competition from Japan, have raised tensions between the two countries.

While the rapid progression by Japanese industries has forced considerable adjustment for Americans, it has required even more structural change in Japan. Long accustomed to being a small country on the periphery of major world events, struggling to develop competitive industries, and traditionally fearful of being overwhelmed by foreign businesses, Japan is having to adjust not only to the responsibilities of a major world economic power, but to a greater foreign presence in its own domestic markets.

This collection of essays examines the Japanese economy and its relationship with the United States from a diversity of viewpoints. While the trading nexus is predominant, also explored are economic policies that while intended to be purely domestic, still affect the United States. The essays were written with the intent of providing information and analysis on the Japanese economy, with emphasis on aspects of interest to U.S. legislators and policymakers.

The papers were contributed by specialists on Japan from the National Diet Library in Japan, the Japan Foreign Trade Council, the U.S. Department of Commerce, Columbia University, the University of California, Massachusetts Institute of Technology, the U.S. General Accounting Office, the U.S. Office of Technology Assessment, and the Congressional Research Service. Except for those papers from CRS, any views expressed do not necessarily reflect those of the institutions to which the authors are affiliated, the Congressional Research Service, or the Joint Economic Committee of Congress.

## SUMMARY OF CONTRIBUTIONS BY AUTHORS

### EXPORTS AND THE JAPANESE ECONOMY

In his study of exports and the Japanese economy, Lester C. Thurow observes that Japan's economy is structurally dependent on exports growing faster than imports. This insatiable appetite for exports, however, is now threatening to cause a blowup in the entire world economy. When Japan's trade surpluses hit the American and European economies, they cut local sales and produce unemployment. This leads to irresistible political pressures to retaliate or failing that to a retreat into ever-widening circles of protection, particularly in the United States where the pressures of Japanese exports are most severe.

Thurow concludes that the current unwillingness or inability of the Japanese to do much about their trade surpluses is a classic case of a country clearly seeing its short-run self-interest and missing its long-run self-interest. While painful, the changes in Japan that will have to occur if the current trading system is to be rescued are much less painful than those that will likely be forced upon Japan if the world economy is debilitated by its export surpluses and Japan is excluded from trade with other industrial countries.

The history of Japanese-American bilateral relations could be characterized as the dialogue of the deaf. Despite several agreements and market-opening measures by Japan, the bilateral trade deficit grows larger and larger. One problem is that Americans are attempting to solve problems of market access in Japan in a legalistic manner, such as would be used in the United States, without recognizing that Japan is a much less legalistic country. Looking for a magic law, which if repealed would dramatically alter Japanese behavior, is futile.

According to Thurow, a new approach is necessary. The United States should begin by abolishing all of its current restrictions on specific Japanese exports and replacing them with a system of "general reciprocity." Under such a system, the United States would determine the largest bilateral deficit it could afford to run with Japan and still obtain overall balance in its international accounts. Depending on how much Japan imports from the United States, licenses could be sold to Japanese exporters and U.S. importers in each quarter of the year to import a certain amount of products from Japan. The value of the licenses would depend on the size of the bilateral deficit deemed acceptable to the United States and would be determined by the level of U.S. exports to Japan in the previous quarter or quarters.

Thurow states that such a system would preserve the advantages of free trade and competition yet still limit the bilateral trade deficit to manageable proportions. The problem of the deficit, however, would be in Japan's hands. It would be up to them to restructure their economy to preserve the world trading system on which they, more than anyone else, depend.

### JAPAN'S INDUSTRIAL POLICY AND PATTERN OF TRADE

The first of two papers by Michael Borrus and John Zysman examines the question of whether the pattern of Japanese trade in manufactures with the rest of the world is a result of governmental policies, an orchestrated industry decision, or is simply the result of market forces. The unique pattern they identify is that Japan tends not to import manufactures in sectors in which it exports.

They conclude that Japanese domestic policies for industrial development, adjustment, and managed decline continue to determine this unique pattern of foreign trade, as well. The policies Japan uses are to initially protect its home market, thereby allowing its industries to borrow technology, sell to a rapidly expanding domestic market, move down their long-run declining cost curves (to levels of lower average costs of production as volume increased), and then jump to newer technologies as the potential for exports reduced the financial risk of doing so.

The authors indicate that the overall result is straightforward, and if correct, matters a great deal. Japanese firms build up internationally competitive product and production positions behind closed markets. Rapid growth with assured finance and protected market shares permits industries to make the massive investments that embody real innovation in production. By the time domestic markets begin to open, final markets in Japan are firmly held by Japanese producers. Entry by foreigners that would once have been based on substantial product or production advantage becomes difficult. It would require displacing Japanese producers from convoluted distribution channels often tied to those producers. At the same time, Japanese manufacturers have begun to establish themselves in foreign markets.

This pattern suggests that the failure by Japan to import in sectors in which it exports is a function of a strategy of trade and development. Moreover, it suggests that as sectors establish competitive positions in international markets, the sectors may be liberalized without producing a stream of imports.

Despite Japan's elimination of formal barriers, what many foreign observers fear is that domestic policies and practices continue to act as a barrier to entry and to the establishment and development of long-term market positions.

### DIMENSIONS OF THE TRADE PROBLEM

The overview paper by Dick K. Nanto examines the dimensions of the bilateral trade problem as indicated by economic statistics. The picture that emerges is that the United States is facing a sizable and chronic deficit in merchandise trade with Japan that is being caused primarily by a surge in U.S. purchases of Japanese manufactured goods and to a lesser extent by a lack of growth in U.S. exports to that country. At $36.8 billion in 1984, the deficit with Japan accounted for about a third of the total U.S. trade deficit. The United States, however, also incurs sizable trade deficits with Canada, Taiwan, West Germany, and other countries.

U.S. exports to Japan are increasing faster than overall U.S. exports, but are just keeping up with overall imports into Japan. In short, the Japanese market is growing relatively fast, but American exports are only maintaining their market share. Exports to Japan from South Korea, Taiwan, and Hong Kong are growing much faster.

Japan's trade barriers on certain U.S. exports keep them from rising fast enough to offset Japanese export surges to the United States. Estimates of the potential increase in U.S. exports from lifting Japan's remaining import barriers range from about $5 to $16 billion or about a third of the 1984 bilateral trade deficit with Japan. About a third of this amount is accounted for by government obstacles on products such as fish, rice, beef, and citrus (import quotas); medical equipment, pharmaceuticals, cosmetics (licensing, standards, and patent obstacles), and services (insurance regulation).

Other import barriers are based primarily on non-governmental economic structure or jointly on governmental and non-governmental barriers. The non-governmental barriers affect products such as electronics components (reciprocal purchasing among companies), petrochemicals (control over pipelines and unloading), gas, coal, aluminum, machine tools (industrial groupings), while joint governmental and non-governmental barriers affect telecommunications equipment, paper, wood, tobacco products, and processed food.

As measured by the bilateral trade balance, American agricultural, petroleum, pharmaceutical, and chemical products are highly competitive in Japan. Also competitive, but with a declining U.S. trade surplus, are U.S. exports of lumber, pulp, textile fibers, scrap metal, leather, paper, and nonferrous metals. Reducing any remaining trade barriers in Japan to these products, should increase U.S. exports measurably.

Much less competitive, or scarcely competitive at all, in the Japanese market are U.S. exports of textiles, iron and steel, machinery, transport equipment, clothing, instruments, and metal and nonmetal manufacturers. As incomes rise, purchases of these types of products tend to rise faster than those of agricultural products. The bilateral trade deficit, therefore, is unlikely to be reduced significantly or permanently by relying solely on opening Japan's markets for agricultural or raw material exports. U.S. exports of manufactured products will have to increase (or Japanese exports of such products will have to fall).

The overvalued dollar contributes to the bilateral trade deficit, but in the short term, a dollar depreciation is likely to increase—not decrease—the deficit, before reducing it over the median term. Depreciation of the dollar, however, would assist U.S. industries in competing with those from Japan both in domestic markets and abroad. It would not, however, deal with the sizable part of the trade deficit due to protectionism.

America's problem of a trade deficit with Japan is shared by other countries, even those such as France, Taiwan, and South Korea, who are considered to protect their home markets against exports from Japan much more than does the United States.

## PERCEPTIONS OF JAPAN'S ELITE ON U.S.-JAPAN TRADE ISSUES

Nanto's paper also examines perceptions among Japan's economic decisionmakers on the bilateral relationship. These members of

Japan's economic elite see Japan as more dependent on the United States than vice versa, which implies they would be more vulnerable to injury in the event of a trade war. The two countries are increasingly being linked, however, by direct private investments, technology transfers, and joint ventures. In the future, competition between international consortia of firms located in both countries is likely to be as prevalent as the current competition between American and Japanese firms.

Japanese economic decisionmakers see the bilateral relationship as sound but with problems. Disputes over trade have not undermined the overall strength of the relationship. Underlying causes of the trade friction were seen as: long-term structural change in the relative economic strength of Japan; short-term recessionary economic conditions; the extent to which development in communications has lagged behind the expansion of economic interaction; and Japan's residual import barriers.

Japan's society is split on the extent to which agricultural barriers should be lifted. Big business tends to favor liberalization, while agricultural interests argue for continued protection. Urban and industrial sectors, therefore, should be powerful potential allies of the United States in attempts to open Japan's agricultural markets further.

Effective methods of resolving problems in the relationship cited by the Japanese decisionmakers included better communications, a stronger U.S. economy, reduced import barriers in Japan, bilateral negotiations, restraints on Japanese exports, and more Japanese investments in the U.S. economy. Excessive U.S. pressures were thought to be ineffective in resolving issues, but many admitted that outside pressure lubricates their decisionmaking process.

### JAPANESE IMPORT BARRIERS

The paper by Raymond J. Ahearn on market access in Japan in terms of the U.S. experience addresses the widespread impression that has developed in the United States that it is more difficult for American firms to sell in Japan's market than for Japanese firms to sell in the United States. He concludes, however, that while Japan's import barriers are important, a major cause of Japan's overall trade surplus is that total spending in that country tends to fall short of the value of its total output. Lacking sufficient domestic demand, firms turn toward foreign markets.

Ahearn concludes, however, that Japan's protection of its home market contributes partly to its trade surplus with the rest of the world. Those trade restrictions, moreover, remain a major source of tension because they impose heavy costs on specific U.S. industries and fuel a widespread impression that Japan is not trading according to rules that most industrialized countries adhere to.

Further liberalization by Japan could lead to increased sales in products, particuarly agricultural and high technology, where the United States is internationally competitive. Liberalization of many Japanese barriers, however, would tend to benefit other countries as well, and not U.S. exporters alone.

Ahearn concludes that though Japan's market is obviously not entirely closed to foreign products, it remains difficult to penetrate.

Four categories of barriers make it difficult either to get a foot in Japan's market or to increase market share. Formal barriers (tariffs, quotas, and investment restrictions) have for the most part been dismantled. Residual tariffs and quotas remain as much a political as a commercial problem. In regulatory barriers (product standards, government procurement policies, and customs procedures), often problems remain, and the promise of greater market access has yet to be completely fulfilled.

Strategic barriers were designed to channel resources to targeted growth industries and to manage the adjustment problems of declining industries. Although strategic barriers are no longer officially pursued, Japanese actions to protect their high-technology and declining industries have aroused considerable concern on the part of U.S. industry and government.

A variety of Japanese, non-governmental business and cultural barriers exacerbate general market access difficulty. The most prominent are the distribution system, interdependent supplier-buyer relationships, and pervasive buy-national attitudes. These private-sector obstacles can make it extremely difficult and sometimes impossible for certain U.S. firms to do business in Japan. Ironically, the very admirable qualities that have helped make Japan an economic superpower may be undesirable in the context of an interdependent world economy, if those qualities further the view in Japan that buying foreign products injures themselves.

According to Ahearn, both countries face an array of options to improve access to Japanese markets. The potential impact of most market-opening measures a weaker dollar and faster economic growth in Japan. As much as $10 billion in additional U.S. exports, however, could result from removal of Japan's trade barriers. More specific initiatives could be considered, such as encouraging Japan to set specific goals for buying more foreign goods. The Japanese government, itself, might have to engage in an extraordinary amount of salesmanship and cajoling of businesses and consumers to accelerate the pace of liberalization. U.S. businessmen also must take advantage of more open Japanese markets.

Ahearn states that market access problems will likely persist, but any resulting tensions will probably not be severe enough to undermine the overall U.S.-Japan relationship. A real dilemma could occur, however, if a continuation of past and current trends in resolving market access problems were to set the United States on a collision course with Japan through a protectionist backlash directed at Japan's exports.

## SHIFT FROM EXPORTS TO DOMESTIC DEMAND

In Jon Woronoff's paper on Japan's structural shift from exports to domestic demand, he addresses the historical shift in Japan's economic policies from being completely export-oriented and focused on external markets to viewing domestic demand as the primary source of economic growth.

Woronoff concludes that since the initial decision to promote exports was conscious, it should be possible to reverse the policy by other conscious decisions. The necessary conditions now exist in Japan for this policy to be reversed, and the government is already moving in this direction. It would be unwise, however, to assume that the Japanese are particularly happy about this policy reversal or would continue moving toward the new policies without some pressure from foreign countries.

According to Woronoff, the policy of administrative reform in Japan, which is reducing government involvement in the economy and reducing budget deficits, sharply inhibits the ability of the government to increase domestic demand. Eventually, however, Japan will have to curtail the reforms in favor of stimulating the economy. As the economy shifts more toward housing, leisure activities, and welfare, the composition of spending will shift more toward domestic demand. As foreign market opportunities shrink and exporters turn more toward the domestic market, prices of goods and services in Japan are likely to decline. This should stimulate domestic consumption.

The short-term results of the structural shift in Japan heretofore have been meager. The chances of long-term results are not much better. But this will require more rational policies by the existing Japanese leadership and doubtless will be hastened by the coming of a younger generation of leaders more in tune with present needs.

## EFFECTS OF JAPAN'S MACROECONOMIC POLICY

Masahiro Sakamoto's paper on Japan's macroeconomic performance and its effects on the U.S.-Japan economic relationship explains that while Japan's domestic economic recovery had been progressing satisfactorily in 1984, dangerous imbalances have been growing in its external sector. Japan's surplus on current account was expected to reach $33 billion or about 3 percent of gross national product. This growing surplus in the current account is mirrored by a similar deficit in the capital account.

The causes of the growing bilateral trade deficit have been the weaker economic recovery in Japan compared with that in the United States, higher U.S. interest rates that have attracted capital flows from Japan, the weakening yen, and the relatively higher income elasticity of demand for Japanese products (as incomes rise, consumers buy more of the products that Japan exports than those exported by the United States). Japan also must offset its deficit in services trade and with raw material exporting countries, such as the oil producing nations, by generating a merchandise trade surplus with other countries, such as the United States, Europe, and some developing nations.

Some important policy issues facing Japan are how to redirect surplus savings by the household sector toward either domestic consumer expenditures or capital formation rather than having them flow abroad and weaken the yen; how to stimulate domestic demand both directly and institutionally; how to cope with increasing financial integration in the world in which higher U.S. interest rates have such a large effect on Japanese capital flows; and how to further internationalize the yen.

Another important issue is how to increase imports of foreign goods, which has not occurred despite many market-opening measures already adopted by Japan. Part of this problem can be traced to the intense competition among firms already in Japan and the limited amount of foreign investment in that country.

## FOREIGN EXCHANGE POLICY

The paper on Japan's foreign exchange policy by McClellan A. Dubois examines the problem of the yen-dollar exchange rate and examines the issue of whether Japan has artificially "rigged" the yen to enhance the competitiveness of its exports or whether the yen rate is primarily determined by market forces. Dubois points out that the debate is clouded considerably because policies, institutions, and regulations on both sides of the Pacific have changed radically over the past decade. Japan, in particular, liberalized its controls over foreign exchange and international capital flows in 1980. This action reduced its ability to intervene to influence the exchange rate, particularly through clandestine methods.

Currently Japan uses intervention to maintain an orderly foreign exchange market by absorbing surges in demand, usually in conjunction with another central bank. In the 1980s, most intervention has been to slow yen depreciation, preventing a potential increase in Japan's competitive position. For their part, Japanese officials believe other countries, particularly the United States, should have a more aggressive interventionist policy.

According to Dubois, most experts agree that since 1981, the critical factor putting downward pressure on the yen has been capital outflows from Japan prompted primarily by high U.S. real interest rates, institutional changes in U.S. and Japanese money markets, concern over mounting debts in less-developed countries, and slow economic growth in Japan. A surge in Japanese direct investment abroad also played a role.

Tokyo is now committed to open its capital market and to allow the increased use of the yen as an international currency and has generally been living up to the agreement. It is less clear, however, how fast Japan will move to deregulate its domestic financial market.

Dubois concludes that although Japan has not overtly acted to adjust the yen/dollar rate to enhance its export competitiveness, it has followed a clear policy of insulating, to the extent possible, the Japanese economy from international financial pressures. The impact of this policy has been to keep demand for the yen well below what would be expected for a currency of a major economic power.

## ENERGY RELATIONS

The paper on issues and problems in U.S.-Japan energy relations by Katsutoshi Murakami and Aoi Nawashiro of the Diet Library of Japan notes the role that energy trade has played in the strengthening of ties between the two countries. Since the 1970s, however, the dominance in Japan of American oil companies has waned. Japan is still heavily dependent on foreign suppliers of petroleum, particularly those from the Middle East. Currently at issue between the two nations are the embargo on exports of Alaskan oil to Japan and the decline in Japanese purchases of American coal since 1978.

The authors are not optimistic about the expansion of U.S.-Japan energy trade. They see the constraints to be the political situation in the United States that blocks exports of Alaskan oil and liquified natural gas as well the relatively high cost of U.S. coal and the existing long-term contracts by Japan's coal buyers that requires them to purchase coal from other nations rather than from the United States.

## TECHNOLOGY TRANSFERS

The paper by Martha Caldwell Harris on Japan's international technology transfers provides an overview of that country's emerging role as a major provider of technology to the world. Japan's single most important technology trading partner is the United States, but its technology exports to Asia are double the value of those to the U.S. market. Japan's major technology-exporting sectors are construction and steel, while its high-technology sectors, such as the computer industry, in contrast, are exporting as well as importing technology of significant value. Japan's volume of technology exports rose from about $11 million in 1972 to $777 million in 1982.

In 1982, Japan's technology exports to the United States were valued at more than $149 million, the largest value exported to any one country and about 19 percent of the country's total technology exports. At the same time, Japan's imports from the United States were valued at $786 million, or about 66 percent of all its technology imports.

U.S. firms are seeking to increase their investment positions in Japan, not only to expand their shares in that country's markets but also to gain access to Japanese technology. In 1983, there were 639 cases of U.S. investment in Japan, valued at $519 million. Some firms are establishing wholly owned subsidiaries, while others have used joint ventures, cross licensing, and other arrangements. The concentration of U.S. investments in high-technology sectors, such as electronics, machine tools, and pharmaceuticals suggests that technology acquisition may be a motivating factor.

Harris explains that the Japanese government has gradually shifted its policies over the past decade from monitoring and regulating technology inflows to stressing the importance of free international technology exchange, even though there still are significant barriers to such technology exports.

Harris identifies and discusses issues associated with Japanese technology transfers, many already points of friction in U.S.-Japan relations. These include: different approaches to protecting innovation; an imbalance in flows of technical information and personnel between the two countries; difficulties in evaluating long-term costs and benefits of bilateral science and technology cooperation; competition between the United States and Japan for sales of technology and products in less-developed country markets; structural barriers impeding foreign access to Japanese technology; and differences in government resources devoted to formulating and implementing technology transfer policies.

She concludes that the level of technology exchange between the two countries is increasing, but this trend of growing interdependence could be constrained in the future by a number of limiting factors. In order to promote mutually beneficial aspects of technology exchange, Harris believes that Japan must move quickly and decisively to promote access by foreigners to technology-producing institutions and markets, and the United States needs to invest additional resources in monitoring and acquiring Japanese technology.

### INDUSTRIAL DEVELOPMENT POLICY

The second paper Michael Borrus and John Zysman examines Japanese industrial development policy. The authors argue that the Japanese government has played and continues to play an important role in creating an economic advantage for domestic industries in world markets.

During the mid-1950's to the late 1960's government industrial policy included control over external access to the domestic economy and measures to promote its development. In this period, the government and the private sector worked together to avoid "disruptive" competition, although "controlled" but intense competition substituted for the pressures of the international market. Such structured competition generated the product and production strengths that the Japanese have taken into world markets.

Turning to the present, Borrus and Zysman elaborate the characteristics of Japan's business structure and its system of state administration and policy that support a strategy of controlled competition for development. They then examine the range of policies used to promote technology-intensive, "sunrise" industries. These policies include public and private collaborative research and development measures; standard setting with a view to structuring and channeling competition; subsidies, tax incentives; promoting industry rationalization; and encouraging the creation of cartels.

The authors conclude their discussion of each of these types of measures for nurturing sunrise industries with the observation that, even though its powers of control and intervention have diminished, the Japanese government continues to act purposely and effectively in promoting promising new industries. The arrangements that give structural advantages to the Japanese have endured.

The second part of the paper analyses Japan's telecommunications policy as an example of the role of technology policy in Japanese industrial development. The authors contend that Japanese success in world telecommunication markets has rested on the ability of their producers to move rapidly to volume production with limited risk in a domestic market insulated from foreign competition. The industrial policy role of Nippon Telegraph and Telephone Company (NTT), in particular, has enabled favored Japanese telecommunications companies to develop and commercialize new technologies in a protected and subsidized, risk-minimalist way.

With NTT coordinating common standards development and allocating markets among its favored family, Japanese producers developed a small number of related product families that share common components and automated production facilities, and hence, lower overall costs. When combined with procurement from NTT in high volumes at premium prices, the costs of the resulting equipment have been driven to or below world levels, enabling rapid competitive penetration of world markets by major Japanese firms.

Their analysis of Japan's past and present regulatory tools and market condtions leads Borrus and Zysman to conclude that continuing regulations, with a self-conscious developmental intent, will probably remain a vital part of Japan's telecommunications landscape. This holds despite the recent privatization of NTT and the liberalization of competition in services.

## DECLINING INDUSTRIES

The paper on positive adjustment policies toward declining industries in Japan by Peggy McGregor and Kathryn Schinasi examines the government's policies toward depressed industries as a type of industrial policy. Since the mid-1970s, a growing number of Japanese industries experiencing financial difficulties caused the government to increase efforts to help in their adjustment. The approach has been to supplement rather than supplant marked forces. Legislation, passed in 1978 and 1983, calls for the development of specific adjustment plans, on an industry-by-industry basis, which delineate the parameters of government assistance and company responsibility.

McGregor and Schinasi conclude that although most industries designated as depressed and qualifying under the program have met capacity reduction targets, the government has been unhappy with the overall success in moving resources out of less-productive activities. Under the 1983 statute, the powers of the Ministry of International Trade and Industry have been broadened to allow it to recommend sweeping changes in an industry, including establishment of joint activities and mergers.

The Japanese government provides assistance to firms in depressed industries in three basic areas: funding, tax incentives, and research and development support. It also has used administrative guidance and import tariffs and quotas, although it has tended to avoid the use of import protection as previously employed to assist infant industries. Instead it prefers financial and tax incentives to shift resources out of unprofitable, uncompetitive sectors. As the number of declining industries increases, however, it could be compelled to resort to more import protection as is the case in Europe and the United States.

## INDUSTRIAL POLICY FOR DEPRESSED INDUSTRIES

The paper on structurally depressed and declining industries in Japan by Michael K. Young presents a case study in minimally instrusive industrial policy. He examines the legal and institutional structure by which Japan deals with declining industries.

After tracing the development and evolution of the major laws dealing with depressed industries, Young shows that rather than dictating solutions, the government depends on the regulated parties, themselves, to design, execute, and even enforce the program administered under the laws. Government does not dictate solutions, but creates a structure in which the parties are encouraged to bargain over the details of a regulatory scheme.

Young also concludes that the operation of these laws suggest a fundamental commitment to the operation of basic market forces. Readjustment plans and all joint activities are screened carefully for possible anticompetitive effects.

Equally important, the negotiated restructuring and joint activities may well be attempts not to counter basic market forces, but rather to offset certain barriers that themselves diminish the extent to which those market forces can operate. He compares the business tie-ups under the depressed industry law in Japan to mergers and acquisitions in the United States, and concludes that the depressed industry law could be necessary in Japan where such combinations are difficult to accomplish.

Young also explains that party participation in the regulatory schemes that maintain and encourage internal competition may also explain in part the sense one has that while Japanese companies cooperate at a number of levels, they are nevertheless intensely competitive with each other. The government orchestrates limited discussion and mutual cooperation among companies, while at the same time diligently working to insure that internal competition is maintained and even enhanced. This may shed some light on how this apparently inconsistent or contradictory behavior on the part of the companies has developed.

## DEFENSE POLICY

In his paper on Japanese defense policy, Larry Niksch examines key issues in this policy of interest to the United States. These include: Japanese defense roles and missions; their defense spending; joint planning and exercises; Japanese financial support for U.S. forces in that country; and Japanese transfer of militarily useful technology to the United States.

Niksch observes that the contentious nature of the defense issue in the bilateral relationship has declined, particularly since Prime Minister Nakasone came to power in 1983. Nakasone's comprehensive security policies appear to be partly responsible for this. There is a perception that Japan is moving to establish itself as an increasingly active and supportive ally of the United States, rather than an inert or neutralist actor.

Several specific Japanese actions on defense issues appear to have satisfied the Reagan Administration, even though they have fallen short of earlier U.S. proposals. These moves have included the acceleration of defense planning and joint exercises, the greater emphasis on procurement of front line weaponry, and increased Japanese spending to support U.S. forces in Japan.

Niksch concludes that with respect to Japan's defense budgets, the most negative U.S. perception concerns the Japanese limits on defense spending, particularly the policy that it be kept to less than 1 percent of GNP. This negative perception, however, is being balanced by a steady rise in real growth in military expenditures to a level much higher than those of several Western European countries.

Since 1979, Japan's spending on defense has increased at between 2 to 5 percent in real (after adjusting for inflation) terms. In 1984, Japan budgeted the equivalent of $12.5 billion for defense, which amounted to slightly less than 1 percent of gross national product and 6 percent of its central government budget. The increased spending for defense has come at the expense of other programs, since total government spending has been curtailed in an attempt to reduce a sizable budget deficit.

About 10 percent of Japan's defense expenditures, or $1.2 billion in 1984, went to maintain about 49,000 U.S. forces in that country. This contribution on a per soldier basis ($23,000) is the highest of any U.S. ally and makes up to about 30 percent of the total incremental cost of maintaining U.S. forces there.

# EXPORTS AND THE JAPANESE ECONOMY

By Lester C. Thurow

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## I. SUMMARY

Japan's economy is structurally dependent on exports growing faster than imports. This structural imbalance had been masked by Japan's need to import machinery during the early period after World War II, its high growth rate during the 1960s, and the rapid rise in petroleum prices in the 1970s. To cure this imbalance, the dollar would have to fall forever at quite a rapid pace, which is not politically possible.

Historically, Japan has followed a policy of import substitution. Where possible, domestic production was encouraged to substitute for foreign production. Experience and expertise gathered in the process of domestic import substitution was used to export.

Such a policy succeeded in the shipbuilding, steel, consumer electronics, automobiles, and microelectronics industries. In order to continue such a policy, however, Japan needs to abandon declining industries and let imports rise in those areas, something it has not been willing to do.

The Japanese economy with its insatiable appetite for exports is now threatening to cause a blowup in the entire world economy. When Japan's trade surpluses hit the American and European economies, they cut local sales and produce unemployment. This leads to irresistible political pressures to retreat into ever-widening circles of protection, particularly in the United States where the pressures of Japanese exports are most severe.

The current unwillingness or inability of the Japanese to do anything about their trade surpluses is a classic case of a country clearly seeing its short-run self-interest and missing its long-run self-interest. While painful, the changes in Japan that will have to

occur if the current trading system is to be rescued are much less painful than those that will likely be forced upon that country if the world economy is destroyed by its export surpluses and it is excluded from trade with other industrial countries.

The history of Japanese-American bilateral relations could be characterized as a dialogue of the deaf. Despite long negotiations, several agreements, and market-opening measures by Japan, the bilateral trade deficit grows larger and larger. One problem is that Americans are attempting to solve problems of market access in Japan in a legalistic manner, such as would be used in the United States, without recognizing that Japan is a much less legalistic country. Looking for a magic law which if repealed will dramatically alter Japanese behavior is futile.

A new approach is necessary. The United States should begin by abolishing all of its current restrictions on specific Japanese exports and replacing them with a system of "general reciprocity." Under such a system, the United States would determine the largest bilateal deficit it could afford to run with Japan and still obtain overall balance in its international accounts. Depending on how much Japan imports from the United States, licenses would be sold to Japanese exporters and U.S. importers in each quarter of the year to import a certain amount of products from Japan. The value of the licenses would depend on the size of the bilateral deficit deemed acceptable to the United States and would determined by the level of U.S. exports to Japan in the previous quarter or quarters.

Such a system would preserve the advantages of free trade and competition yet still limit the bilateral trade deficit to manageable proportions. The problem of managing the deficit, however, would be in Japan's hands. It would be up to them to restructure their economy to preserve the world trading system on which they, more than anyone else, depend.

## II. EXPORT DEPENDENCE

Japan's economy essentially has a drug habit. To keep running it needs larger and larger injections of exports. As now structured, exports must grow much faster than imports if the economy is to grow. This has become apparent in the past few years—in 1983 exports accounted for all Japan's growth and in 1984 they accounted for two-thirds of its growth—but the problem is one of long standing. Although Japan's trade surplus was made worse by the high valued dollar of early 1980s, it was not caused by the high valued dollar, and it will not be solved by a decline in the value of the dollar.

### A. STRUCTURAL IMBALANCE

The long-standing structural nature of Japan's problem can be seen clearly by comparing the volume of exports and imports leaving and entering the Japanese economy with the real growth in its gross national product (GNP) (see Table 1). Over the last nineteen years exports have grown twice as fast as imports. Over that same period of time imports have grown slightly faster than the real GNP, but not by very much. As a result real internal domestic demand has grown at just about half the rate of external international demand (6.1 percent per year versus 11.1 percent per year) over the past two decades. As the data in Table 1 show, this situation did not suddenly appear in the last four years with a high valued dollar.

TABLE 1.—THE VOLUME OF EXPORTS, IMPORTS, AND GNP

[1965=100]

| Year | Export volume | Import volume | Real GNP |
|---|---|---|---|
| 1965 | 100 | 100 | 100 |
| 1970 | 209 | 213 | 170 |
| 1975 | 352 | 289 | 214 |
| 1980 | 581 | 365 | 275 |
| 1981 | 667 | 370 | 286 |
| 1982 | 675 | 374 | 296 |
| 1983 | 707 | 351 | 305 |
| 1984 | 812 | 387 | 323 |

Source: International Monetary Fund, International Financial Statistics, Washington, 1984 Yearbook, p. 364; and April 1985, p. 278.

Much of what is measured as domestic demand is also traceable to the indirect effects of the international sector. Higher Japanese exports lead to higher Japanese incomes and hence higher domestic demand from those who work in the export sector. If this indirect effect is included, a very large fraction of Japanese growth can be traced to the direct and indirect efforts of larger and larger export surpluses.

For a long time this structural imbalance was masked by three factors. First, right after World War II Japan was a poor country that had to import much of the machinery necessary to rebuild its economy. As difficult as it is to remember today, Japan ran a chronic trade deficit until the 1960s. Its overall rate of growth was limited by its inability to pay for the imports it needed to grow faster. It desperately needed more exports just to get a balance in its balance of payments.

Second, during what the Japanese refer to as the income-doubling decade (the 1960s), Japan's growth rate was so much faster than that in the rest of the world that it essentially ran a balance in its balance of trade, even though its propensity to import (the rise in imports produced by a rise in the Japanese GNP) was much lower than its propensity to export (the rise in Japanese exports produced by a rise in the GNP in the rest of the world). A lower propensity to buy imports was counterbalanced by a higher rate of growth of the GNP. Because of this rapid growth rate within Japan, real imports actually rose faster (213 percent) than real exports (209 percent) from 1965 to 1970 (see Table 1).

Third, since Japan imports almost all of its energy, the OPEC oil shocks produced temporary deficits in the Japanese balance of payments. This does not show up in inflation adjusted measures of exports and imports for the price of oil is held constant in these indexes (in Table 1 oil is priced at 1982 levels), but if one looks at exports and imports unadjusted for price changes, the Japanese ran deficits in 1973, 1974, 1975, 1979 and 1980 during the two

OPEC oil shocks.[1] These two big increases in the price of imported oil kept the Japanese balance of payments surplus in check by charging the Japanese a lot more for the same volume of oil imports.

All three of these factors are now, however, at an end. Japan is not dependent on capital equipment from the rest of the world to maintain its growth rate. As a result imports of manufactured products have not risen as fast in Japan as in the rest of the world. While the volume of manufactured imports was rising 3.8 times as fast as the GNP in West Germany and the United States, it was rising only 2.1 times as fast as the GNP in Japan.[2] Japan is gradually becoming more and more self-reliant on its own manufacturing capabilities. What yesterday it could not produce for itself, today it can.

Japan is also no longer growing much faster than the rest of the world. The large supplies of underutilized labor that used to exist have vanished, but more importantly Japan's export markets cannot sustain rapid Japanese growth. The volume of exports that the Japanese must sell to maintain rapid growth at home is simply impossible now that it is the second largest industrial economy in the world and the rest of the world is growing at a much slower pace. What was possible for a small economy (export-led growth) is impossible for a large economy. As a result Japan's low import propensities are no longer counterbalanced by its higher growth rate.

Finally the oil crisis seems to have at least come to a temporary end. With stable or falling oil prices the Japanese trade surplus will grow very rapidly since what they have to pay for imports is decreasing. In 1984, for example, Japan's trade surplus was 8,020 billion yen, but it would have been 18,875 billion yen if the Japanese had not had to import oil.[3] Every 10 percent fall in the price of oil essentially adds 1,000 billion yen to the Japanese trade surplus.

Like the two OPEC oil shocks, a falling dollar will temporarily mask the rising structural trade surplus in Japan ($44 billion in 1984 and expected to surpass $50 billion in 1985), but it will not cure the problem.[4] To cure the problem, the dollar would have to fall forever at quite a rapid pace. This clearly is not politically possible.

### B. IMPORT MINIMIZATION

If one thinks even casually about Japanese history, the current export-led structure of the Japanese economy should come as no surprise. For centuries Japan was a closed society where foreign imports were prohibited. In a non-legal society where individual actions depend not upon laws but upon social consensus (the Japanese now call it administrative guidance) it is not surprising that foreign pressures to open Japan to foreign influences did not change the social consensus that imports were not desirable. Imports were necessary if Japan was to catch up with the rest of the industrial world rapidly, but they should be used only when there were no local substitutes. Imports were a necessary evil.

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[1] International Monetary Fund. International Financial Statistics. Washington, 1984 Yearbook. p. 364; and April 1985, p. 278.

[2] U.S. Department of Commerce. International Economic Indicators. March 1985. p. 31.

[3] International Economic Indicators. March 1985, p. 31.

[4] Ibid.

This tendency was reinforced in the aftermath of World War II. Japan was a destroyed society that had to be rebuilt. Its industries were in ruin and it had few products that it could export. Yet it had to import almost all of the machinery necessary to rebuild. In the 1950s foreign exchange was in short supply, and all of it had to be allocated to those who were purchasing scarce industrial equipment not available in Japan. It is not surprising in this situation that the Japanese would reinforce their social consensus to import only the necessities that were not available domestically.

In this period of time, firms were limited not by their ability to sell products but by their ability to obtain the foreign exchange to buy the machinery they needed to service their potential markets. Given this circumstance, it is not surprising that firms stressed self-reliance with no dependence upon imports. The firm that would grow the fastest was the firm that could minimize its use of foreign exchange and imports. As a result, the entire industrial economy was structured to minimize the use of imports. How does an American firm break in as a new supplier of industrial components when Japanese firms place a premium on maintaining long-term intimate supply relationships with geographically propinquitous firms in the just-in-time inventory system? The simple answer is that it doesn't.

During its period of post-World War II reconstruction, Europe also had legal restrictions on imports, but those restrictions quickly disappeared for two reasons. With the formation of the Common Market, Europe took deliberate actions to stimulate economic integration and hence imports within Europe. When the laws limiting imports were repealed, imports quickly rose. In contrast, Japan was not participating in the formation of a common market with other countries. It was on its own. In a non-legal society, the social consensus not to rely on imports can also last long after the formal laws have been abandoned.

This can be seen in a public opinion poll after Prime Minister Nakasone announced a "Buy Foreign" campaign in the spring of 1985.[5] For those in their sixties, only 9.9 percent have a favorable image of imports and 10.6 percent have a negative image. For those in their twenties, the favorable image for imports rises to 16.4 percent, but this is still far below what would be found in any other country. With such small percentages of the population having a favorable image of imports, it is not surprising that imports find it hard to break into the domestic Japanese market.

### C. IMPORT SUBSTITUTION

Finally, Japan's industrial policies have worked to reinforce the structural nature of Japan's trade surplus. These policies have essentially been those of import substitution. Since import substitution is not possible for Japan in the area of raw materials, the policy must of necessity focus on manufactured goods.

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[5] Japanese Consumers Mostly Cool to "Buy Foreign" Campaign. The Japan Economic Journal, June 4, 1985, p. 4.

If one is an economic leader, it is difficult to determine exactly where one should put his investment resources. If one is far behind economically, however, and this is where Japan was until recently, the problem is far simpler. One simply invests in those industries where imports have proven that the demand is sufficient.

Target the industries which import, replace those imports in the domestic market with local production, and then use the experience and expertise gathered in the process of domestic import substitution to export and penetrate foreign markets. This is what the textbooks on development economics say should be done, and it is what the Japanese have done. Shipbuilding, steel, consumer electronics, automobiles, micro-electronics—they all followed the same common pattern.

### D. DECLINING INDUSTRIES

But if a country follows an import-substituting strategy and at the same time does not abandon declining industries and start importing these products, the result is an economy with a structural trade surplus. Relative to the growth of the GNP, imports continually decrease.

Japan has not abandoned old industries and let imports rise in these areas for understandable reasons. The social consensus surrounding economic growth and the current economic policies might get fractured if too much of the costs of those policies were loaded on the sectors that Japan ought to abandon. A social consensus depends upon a fair allocation of costs and benefits. There can be no overloading of costs on particular sectors of the economy.

This is particularly important in Japan with its system of lifetime employment. With lifetime employment, it is difficult for workers to transfer to other firms, since firms typically do not recruit except among the young. If a worker's firm is driven out of business by imports, he is not apt to get a job anywhere nearly as good for the rest of his lifetime.

More parochially, some industries, such as farming, are protected since they benefit from over-representation (fewer voters per elected representative) and have provided the margin of victory for the ruling Liberal Democratic Party.

Being understandable, however, does not make the situation right or tolerable.

## III. International Effects

As the Japanese economy is now structured, with its insatiable appetite for exports, it is threatening to blow up the entire world economy. The rest of the industrial world simply cannot absorb its export surpluses.

### A. ECONOMIC EFFECTS

When Japan's ever-riding trade surpluses hit the European and American economies, they create a problem. Essentially, they cut local sales and produce unemployment. The unemployment that would normally flow from a stagnant Japanese domestic economy is essentially being exported to the United States and Europe. This might have been acceptable when Japan had a small, weak economy and the volume of exports and unemployment was not large, but it is not permissible given a large, strong Japanese economy where the volume exports and impact on unemployment is huge.

For a limited period of time, Europe and America can tolerate Japanese trade surpluses by continuing to stimulate their economies. They just run the trade deficits which the Japanese trade surpluses require as their counterparts. To do this, however, these countries must go ever deeper into debt. In less than three years, for example, the United States has gone from being the world's largest creditor nation with net assets of $152 billion to being a debtor nation. By early 1986, the United States will, in fact, become the world's largest net debtor, with debts of over $100 billion. In the meantime, Japan has become the world's largest net creditor, with net assets of $74 billion at the end of 1984.[6]

In the long run, such a structure is not viable. No one can forever go rapidly into debt. This creates an equally true converse proposition that no country can forever rapidly accumulate assets. The Japanese trade surplus is no more viable in the long run than the American trade deficit. For they are, in fact, simply mirror images of each other.

Europe runs a worrisome trade deficit with Japan, but most of the economic pressures of the Japanese trade surplus have been felt in the United States. This has occurred because of the high-valued dollar (Europe's export surpluses with the United States are larger than its export deficits with Japan) and because the Europeans have for all practical purposes put quantitative restrictions on Japanese exports to their countries. This can be seen by comparing Japan's multilateral trade surpluses with its bilateral trade surpluses with the United States (see table 2).

TABLE 2.—JAPAN'S TRADE BALANCE, 1965–84

[Dollars in billions]

| Year | Total trade balance | Bilateral balance with the United States | Year | Total trade balance | Bilateral balance with the United States |
|---|---|---|---|---|---|
| 1965 | $1.9 | $0.4 | 1979 | $1.9 | $8.6 |
| 1970 | 4.0 | 1.2 | 1980 | 2.1 | 10.4 |
| 1975 | 4.9 | 1.7 | 1981 | 20.0 | 15.8 |
| 1976 | 9.8 | 5.3 | 1982 | 18.0 | 17.0 |
| 1977 | 17.3 | 8.0 | 1983 | 31.5 | 19.6 |
| 1978 | 25.6 | 11.6 | 1984 | 44.4 | 34.0 |

Source: International Monetary Fund: International Financial Statistics. Washington, 1984 Yearbook, p. 364, and April 1985, p. 278. See also U.S. Department of Commerce. Survey of Current Business. June issue, various years.

## B. TRADE SURPLUSES

Japan's march toward an ever larger trade balance was interrupted by the OPEC oil shocks, but nothing has interrupted its march toward an ever larger trade surplus with the United States. In 1984, three-fourths of Japan's total trade surplus was accounted for by its bilateral trade surplus with the United States. Japan's trade balance with the rest of the world also started to grow rapidly once the second OPEC oil shock was behind it. Excluding the United States, Japan had an $8.3 billion trade deficit with the rest of the world in 1980. But by 1984, it had a $10.4 billion trade surplus. With oil prices falling, this surplus is going to get bigger at a very rapid rate.

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[6] Japan's External Assets & Liabilities at End of 1984. The Japan Economic Journal, June 4, 1985, p. 4.

Such surpluses are simply impossible to maintain without severe repercussions. They lead to irresistible political pressures to retreat into ever-widening circles of protection. Because the pressures of Japanese exports are most severe in the United States, it is the United States that is most likely to crack first.

Paradoxically, the Japanese trade surpluses threaten to blow up the very world economy upon which Japan depends more than anyone else. On one level, the Japanese economy is very strong. Consider its automobile manufacturing industry. It produces 11 million cars, trucks, and buses, and exports about 8 million of them. At another level, the Japanese economy is very weak. Cut off from those auto exports, it has a motor vehicle manufacturing industry which is almost four times as large as it can support domestically.

The current unwillingness or inability of the Japanese to do anything about their trade surpluses is a classic case of a country clearly seeing its short-run self-interest and missing its long-run self-interest. In the short run, as it is now structured, the Japanese economy clearly needs to generate larger and larger export surpluses to keep its domestic economy humming. But if it gets those trade surpluses, it will blow up the world economy and destroy the very world economy upon which it depends.

### C. JAPAN'S POLICY DILEMMA

Within Japan, the changes that will have to occur to alter the structure of the Japanese economy so that it does not depend upon export-led growth are painful. The Japanese economy could easily be returned to rely less on exports, but the industries that would gain in that restructuring are very different than those who now benefit from those rising export surpluses. In a retuned economy, much larger fractions of Japanese production would be directed toward the housing and social infrastructure (roads, sewers, etc.) sectors that Japan needs and much less of Japanese production would be devoted to industries such as consumer electronics where the local Japanese market can not begin to buy the output of its domestic producers. But if you earn your living in consumer electronics, such a shift hardly seems axiomatically desirable.

While painful, the domestic changes that will have to occur if the current trading system is to be rescued are much less painful than those that will likely be forced upon Japan if the world economy is destroyed by its export surpluses and Japan is excluded from trade with other industrial countries. In the first case, Japan gets to decide what it does or does not export. In the second case, the rest of the world decides what the Japanese can or cannot export. No one should be surprised, least of all those in Japan, if the rest of the world prescribes harsher medicine for the Japanese economy than it would prescribe for itself.

## IV. U.S. Policy

Within the United States, the trade imbalance leads to irresistible political pressures to retreat into ever-widening circles of protection. Congress votes for such laws because there are simply many more voters hurt by Japanese exports than helped by being able to sell their products in Japan. In theory, consumers provide a countervailing political pressure to such legislation because they would lose the right to buy cheap, high-quality Japanese products, but in practice many consumers feel that their own jobs are threatened, and in any case consumers have little political muscle.

Americans have to take some of the blame for the trade deficit with Japan. American firms have refused to design products explicitly for the Japanese market, have been shoddy in their quality control, have refused to learn the Japanese language and customs, have demanded instant success, and have often acted as if it is the duty of Japan to run its economy precisely as the U.S. economy is run. Our government has contributed to the problem by letting the dollar-yen exchange rate rise until it it nearly impossible for any American manufacturer to compete.

If the United States were the only country having trouble exporting to Japan, one could say that Americans will simply have to learn how to sell their products in foreign markets. But it is not only Americans who are having trouble. Countries such as West Germany, with a demonstrated track record of exporting success, have found it extremely difficult to break into the Japanese market.

Ascribing blame, however, has become irrelevant. A solution is needed now.

### A. DIALOGUE OF THE DEAF

The history of Japanese-American bilateral economic negotiations could be characterized as the dialogue of the deaf. The nature of the interchange was well illustrated in the June 1984 announcement that Japan had agreed under American duress to "open" its capital markets to international banking. The agreement was a prototypical example of the last fifteen years of Japanese American economic negotiations. Given an imbalance in bilateral trade, Americans start yelling about some part of the Japanese economy that is closed to American participation. After a year or two of detailed negotiations, Japan and the United States announced that they have reached an agreement "in principle" to settle the particular issue under discussion. Japan will gradually over a period of years undertake to do some of what America wants. When all of the sound and fury have died, however, nothing will have changed. The bilateral deficit will be bigger than ever.

The most recent agreement on liberalizing Japan's capital markets [7] fits all of these particulars. The Reagan Administration spent almost four years yelling and negotiating but at the end got a minuscule change in the Japanese financial system. The aim of the negotiations was to raise the demand for yen, and hence its value, by making it easier to move currencies in and out of Japan. A higher-valued yen would make Japanese goods more expensive in the United States and Americans would buy fewer of them, improving the bilateral balance of trade—or so the argument went. But the negotiated changes were so modest and spread out over three years that it was clear even at the time that they would do little to raise the value of the yen. In fact the yen went down substantially in the nine months after the agreement, and the bilateral deficit rose.

The Japanese felt that they had given the Americans what they were asking for, and the Americans felt that somehow they had been cheated because nothing positive seemed to be happening.

This dialogue of the deaf is produced by a highly legalistic society looking for legalistic solutions in a non-legal society. Americans keep searching for the law or formal regulation which if changed would suddenly open up the Japanese economy. What they don't realize is that there is no such law or formal regulation. All laws or formal regulations can be altered and if the social consensus does not at the same time change, nothing will have happened. This is what the Japanese concept of administrative guidance means. What is important is not what is written down in the law, but what exists in the social consensus. And as long as the social consensus does not call for a restructuring of the Japanese economy to permit growth without an export surplus, it will not occur no matter how the laws are altered.

From an American perspective this is very difficult to understand. How can a society maintain effective control of the actions of its citizens without the benefit of laws or formal regulations? It could not be done in the United States but it can be done in Japan. While difficult to understand, this fact of life had better be understood in the United States. Current American negotiations to open up the Japanese market are doomed to failure. Looking for the magic law which if repealed will dramatically alter Japanese behavior is like looking for the pot of gold at the end of the rainbow—neither exists.

Americans have a second ideological hang-up that makes it difficult to deal with the Japanese in trade negotiations. To deal effectively one must recognize that Japan is a strategically managed economy and can do things that would be impossible in the United States. The Reagan Administration cannot recognize this reality. It runs contrary to their ideology, which is that it is simply impossible for a strategically managed economy to work better than a free enterprise economy. Since Japan clearly works, it cannot be a strategically managed economy regardless of how many plans emerge from its Economic Planning Agency and regardless of how many strategic investments are nurtured by its Ministry of International Trade and Industry. If the Reagan Administration did recognize the reality of strategic Japanese planning it might then be confronted with demands that similar concepts of strategic management be implemented in the United States.

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[7] U.S. Department of the Treasury. Joint Press Announcement, November 10, 1983. See also: Report by the Working Group of Joint Japan-U.S. Ad Hoc Group on Yen/Dollar Exchange Rate, Financial and Capital Market Issues to Japanese Minister of Finance, Noboru Takeshita, U.S. Secretary of the Treasury, Donald T. Regan. May 1984 (mimeo).

As a result it does not ask the Japanese to deal with the problem in a Japanese way (change Japan's economy strategic), but asks them to deal with the problem in an American way (change some law). As an American negotiating position, this is simply a failure as witnessed by the last 10 years of American yelling at the Japanese to open up their markets. Nothing has happened.

On the Japanese side they have now heard Americans yelling at them to open up their markets for more than a decade. During all of this time the Japanese trade surplus with the United States has grown only larger. First $10 billion was unacceptable and then $34 billion was unacceptable. Having been threatened often and having seen that none of the threats were ever carried out, the Japanese have learned to politely ignore the American temper tantrums over their bilateral trade deficit. Given their experiences, anyone would have come to their conclusion. The Americans love to yell but they seem to never really do anything effective to remedy the situation. As a result it is not really necessary for Japan to do any painful rethinking of its own industrial structure.

The time has come to quit yelling and become effective.

### B. GENERAL RECIPROCITY

To become effective the United States should begin by abolishing all of its current restrictions on specific Japanese exports. The current restrictions are counterproductive—leading to ever-increasing waves of protection, creating continual frictions with one of our leading political and military allies—and are robbing the American consumer. All of these restrictions should, however, be replaced with a system of what I will call "general reciprocity."

In a system of general reciprocity America would examine world trading patterns to determine the largest bilateral deficit America could afford to run with Japan—something on the order of $8 billion per year—and still obtain overall balance in its international accounts. America would announce that Japan had unlimited access to the American market in terms of specific products—all specific tariffs and quotas would be removed—but that Japan could export only $2 billion more to the United States in this quarter than it had on average imported from the United States in the preceding four quarters. If Japan, for example, had on average imported $10 billion worth of goods and services from the United States in the first quarter of 1985, it could export $12 billion worth of goods and services to the United States in the second quarter of 1985. If it imported $20 billion, it could export $22 billion. Each quarter's import licenses would be auctioned off in the appropriate amount with both American importers and Japanese exporters eligible to bid.

Such a system would preserve the advantages of free trade and competition yet still limit the bilateral trade deficit to manageable proportions. No one would be telling the Japanese how to run their economy or how to change their culture. America would essentially be offering them an open door. Come into our markets. Export whatever you like. But remember, whatever you export, you have to import a comparable, even if lesser, amount.

The tennis ball would be in the Japanese court. It would be up to them to do something creative with it. Given the reality of the situation I have no doubt that they would successfully restructure their economy to preserve the world trading system on which they more than anyone else depend.

# JAPAN'S INDUSTRIAL POLICY AND ITS PATTERN OF TRADE

By Michael Borrus and John Zysman

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## I. SUMMARY

The pattern of Japanese trade in manufactures with the rest of the world is different from that exhibited by other advanced industrial countries. Japan—relative to others—tends not to import manufactures in sectors in which it exports. The question is whether this pattern is a result of governmental policies, an orchestrated industry decision, or simply the result of market forces.

It is our view that Japanese domestic policies for industrial development, adjustment, and managed decline that are intended to affect the production profile of a nation continue to affect Japan's pattern of foreign trade as well. The view we develop here is that Japanese policies do compensate for deficiencies in Japanese market mechanisms, and that they do so in a manner intended to shape explicit outcomes that would not occur in a pure market system.

The Japanese trade structure is unique in one revealing aspect: it does not import goods in sectors in which it exports them. In other advanced countries, trade is intra-sectoral. That is, these countries export and import within the same sector.

Our explanation for this pattern is that Japan initially protected its home market, thereby allowing its industries to borrow technology, sell to a rapidly expanding domestic market, move down their long-run declining cost curves (to levels of lower average costs of production as volume increased), and then jump to newer technologies as the potential for exports reduced the financial risk of doing so.

One need only assume that foreign companies with advanced technologies cannot overwhelm the Japanese market—for example, because it is protected—to predict much of the behavior of Japanese firms. There is no need to resort to arguments about the art of Japanese management or the character of the Japanese workforce.

The overall result is straightforward, and if correct, matters a great deal. Japanese firms built up internationally competitive product and production positions behind closed markets. Rapid growth with assured finance and protected markets permitted this follower nation to make the massive investments that embodied real innovation in production. By the time that domestic markets began to open, final markets in Japan were firmly held by Japanese producers. Entry by foreigners that would once have been based on substantial product or production advantage became difficult. It would have required displacing Japanese producers from convoluted distribution channels often tied to those producers. At the same time, Japanese manufacturers had begun to establish themselves in foreign markets.

This interpretation accounts for the unique features of Japanese trade and the general pattern. It suggests that the failure by Japan to import in sectors in which it exports is a function of a strategy of trade and development. Moreover, it suggests that as sectors establish themselves as competitive in international markets, the sectors may be liberalized without producing a stream of imports.

Despite Japan's elimination of formal barriers, what many foreign observers fear is that domestic policies and practices continue to act as a barrier to entry and to the establishment and development of long-term market positions.

## II. INTRODUCTION

The Japanese developmental system has—outwardly at least—undergone something of a metamorphosis in recent years. As Japanese companies have become richer and increasingly dominant in world markets, and have even begun to achieve state-of-the-art technology, government efforts to influence routine market conditions have waned. However, purposive intervention continues and continues to matter in the dynamics of the domestic economy. This paper considers how Japanese domestic policies affect its pattern of trade.

Under pressure from trading partners abroad, most formal restrictions on entry into the Japanese market have been lifted. Nonetheless, the pattern of Japanese trade in manufactures with the rest of the world is different from the pattern exhibited by any of the other advanced industrial countries. Japan—relative to the others—tends not to import manufactures in sectors in which it exports. This seems to demonstrate an intense pattern of import substitution. The question, simply, is whether on the one hand this pattern continues to be a result of government policies, of orchestrated industry decision, or is simply the result of market forces. It is our view that Japanese domestic policies for industrial development, adjustment, and managed decline that are intended to affect the production profile of a nation continue to affect Japan's patterns of foreign trade as well.

Analytically the issue can be stated quite simply. Is this distinctive pattern of Japanese trade a simple product of market forces, or does it continue to reflect governmental will, if not explicit government policy? The trade pattern may be: (1) the result of market forces; (2) a continuing product of government intervention, that is, a continuation of the developmental role, or (3) the legacy of a past pattern of discrimination that will therefore erode over time.

The importance of past discrimination is sometimes underestimated, leading observers to underestimate the importance of present closure. Past discrimination lives on in the institutions of the economy and the attitudes of the community. Arrangements of suppliers and of distribution were established in a closed market. They are now remarkably difficult for foreigners to penetrate.

Remarkably views of the impenetrability of the Japanese market serve to make entry more difficult, sustaining the present pattern of trade. The American Chamber of Commerce in Tokyo jointly sponsored a now widely publicized study of U.S.-Japanese trade and the possibility of American success in Japan. The study was conducted by McKinsey and Co. Both the conclusions and the way they were arrived at are instructive.

Academics often worry about something called "methodology." Given the assumptions, the conclusions of the book are not surprising. The sectors in Japan identified as open for U.S. penetration are service sectors, not manufacturing. What assumptions lead to this conclusion? The self-proclaimed methodology of the U.S.-Japan study group rested on the assumption that in those sectors in which the Japanese were exporters there would be *no* market for imports in Japan. This is an astounding statement. It means that in any sector in which the Japanese are present as exporters in world markets we should assume as normal the absence of imports.

To make the above analysis concrete, the position implies that since the Japanese export semiconductors, the Americans should abandon their efforts to penetrate the Japanese market. If the Germans or the French were to follow a similar logic, it would then mean that since both are substantial exporters of autos there would be no place for Japanese cars in Europe. It is ironic that even a study of the American Chamber would embed such assumptions and conclusions.

It is crucial therefore that we understand the dynamics of Japan's trade. American policy and corporate strategy must rest on an answer to the question, what lies behind the massive trade surplus with the United States? Is it the great competitive strength of Japanese companies? Are the cultural barriers to imports running from archaic distribution systems to buy-Japanese attitudes critical? Or are the patterns of trade shaped by the government hand? If government policy matters, how and how much? Answering the question is not simple. Argument by anecdote or case will not settle the more general argument. The general reader must bear with a more formal development of the issue. Hopefully the importance of the question merits the effort and perhaps our answer can cast some light on the debate.

## III. Accounting for Japan's Pattern of Trade

A systematic understanding of the effect of industrial policy on trade patterns must explain both the general trade pattern and the pattern of trade within manufacturing in general and specific manufacturing sectors. More formally, a theory must be built at both the sectoral (specific industry) and the aggregate (general trade pattern) level.

Many economists would argue that the real test of whether industrial policies affect trade patterns is provided by the aggregate data. That is, they would look at the overall pattern of trade and trade policy. They would, *first*, remind us that the Japanese have reduced external barriers to trade and, formally at least, have gone further than many of their trade partners. The Japanese have dramatically reduced formal barriers to trade in recent years. Quota restrictions were reduced from 466 in 1962 to 27 by 1983. The bulk of those (22) were in agriculture, where everyone acknowledges that real protection continues. The rate of duties for manufactured imports fell from 20.9 percent to 4.3 percent by 1983 and from 7.3 to 2.5 percent for all imports. The duty rate for small cars plummeted from 40 percent in 1968 to zero by 1980.

*Second*, some would contend on the basis of formal models that despite the government's administrative interventions the Japanese domestic economy approximates a perfect or untouched market. Their assumption is that the government interventions we discussed above are either not that important in the first place or serve to correct structural departures from the market, that the policies make the Japanese system work more like a perfect market. In either case their central conclusion is that government policy is not crucial in accounting for Japan's trade pattern.

We disagree. The view we develop here is that in areas such as finance and R&D, Japanese policies do compensate for deficiencies in Japanese market mechanisms, and that they do so in a manner intended to shape explicit outcomes that would not occur in a pure market system.

*Third* and in sum, many economists would contend that since external barriers have been removed and internal intervention serves parallel to markets, Japanese trade is consequently a product of open international competition and market processes rather than a function of government policy. Japan, we must note, is a very rich country without natural resources. Therefore, if Japan is to live, it must import raw materials. The only things it can export to pay for those raw materials are manufactured goods or sophisticated services. They conclude that the pattern of trade reflects the structure of its economy.

Japan, however, is not the only resource-poor country, and not the only advanced and rich industrial country that must import its material resources and export manufacturers. What is unusual about the Japanese case, again, is the tendency not to import manufactures in sectors in which it exports them. International trade among the advanced countries, importantly, hinges on the subtle distinctions between products, not on gross advantage in whole sectors of the economy. That is, some Germans prefer Renaults and some French prefer Fiats, some Americans prefer Toyotas and others prefer Chevrolets, but it would seem very few Japanese would prefer cars manufactured outside of Japan. The reason for this could be that Japanese cars are simply better or cheaper or that Japanese designed cars are universally preferred. On the other hand, it may be that foreign cars are excluded from that market, or that previous exclusion of foreign producers allowed the Japanese to dominate their home market. Now that they have established real advantages the formal protection may be less necessary.

## IV. The Saxonhouse Thesis

With respect to the third explanation of Japan's pattern of trade, Gary Saxonhouse sought to test the notion that Japanese trade patterns are a product of open trade and market processes.[1] He sought to build a model that would allow us to judge whether government policy had influenced Japanese trade patterns. He used a modified version of the Hecksher-Ohlin-Samuelson theory of comparative advantage, which analyzes trade flows in terms of the global distribution of input and production factors. He notes that Japan's ratio of manufactured imports as a percentage of total imports is very low (21.5 percent in 1981 compared to 55 percent in the U.S. and 63.4 percent in Britain). However, Saxonhouse contends this pattern falls within the normal range of trade outcomes predicted by the model he built. The aggregate pattern we observe, he argues, is one in which a raw-material-poor country has built a stock of capital and skilled labor, imports its raw materials, and exports manufactures. The Saxonhouse model, by its very nature, cannot account for the features of trade that make Japan distinctive.

The general pattern of Japanese trade is not unusual or hard to explain, in our view. What is unusual and requires explanation is that Japanese trade structure, as we have discussed, is unique in one revealing aspect: relative to its trade partners, Japan does not import goods in sectors in which it exports them. Its pattern of trade with other advanced countries is distinct in this regard. The trade among the advanced countries is intra-sectoral; that is, these countries export and import within the same sector.

Why, then, in Saxonhouse's analysis should Japan be an anomaly? What is truly distinct about Japan and shapes its trade is the level of literacy and savings, both of which tend to encourage a comparative advantage in trade in capital-intensive and knowledge-intensive manufactures. The literacy rate is quite remarkable. This can only facilitate the move toward an electronics economy, and indeed many who know Japan well speak of a love affair with electronics that is the equivalent of the American affair with the automobile a generation ago. It would seem clear that high Japanese savings rates which reduce the price of capital give the Japanese an advantage in industries in which the price or availability of capital resources affects the competitive position of firms. The pool of educated manpower and capital mean that we might well expect Japan's exports to be concentrated in sectors in which capital resources and an educated workforce matter. That is Japan should export capital-intensive and knowledge-intensive manufactures as indeed it does.

That doesn't account for Japanese domination of domestic markets or the seeming tendency for Japan to import those goods it does not make but not those that it does. Nor can it account for the enormous stability in American market share in very rapidly growing markets. In semiconductors, for example, the American firms have held roughly 10 percent of the Japanese market. They held well over 50 percent of the markets outside Japan.

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[1] Gary R. Saxonhouse. The Micro- and Macroeconomics of Foreign Sales to Japan. In William R. Cline, ed., Trade Policy in the 1980s. Washington, Institute for International Economics, 1983. p. 259-304.

At the beginning of the period the Japanese producers were not cutting-edge competitors on world markets. During that time the Japanese market for these products grew rapidly, driven by demand for consumer electronics. The industry underwent three virtual product revolutions. Market positions of firms throughout the world were reshuffled. Japan's share of the American and European market went up. This was not a stable industry. The American share of the Japanese market remained constant throughout these changes; it neither rose nor fell. Literacy and savings rates do not then account for the intra-sectoral pattern of trade. They cannot.

However, there is one explanation that would explain this; it is that Japanese design, development, and manufacturing are so inherently superior and have established a dominance so complete that once they enter foreign markets, the domestic market is secure. Yet if one does not accept that rather extreme position, what alternative can be offered?

## V. An Alternative Explanation

The explanation implicit in our discussion is that the particular Japanese pattern on trade is in important ways the result of policy at a sectoral level. The formal logic we develop, without reference to the Japanese case for a moment, is that a closed market in a large country and a pattern of rapid import substitution prevent foreign firms from establishing an enduring position in the domestic market.[2]

That is, the foreign firms are prevented from using the strength that gave them a temporary competitive advantage as a means of building a longer-term position. Intense domestic competition then builds a product and production base that generates strong entry into international markets by firms based in the closed-market countries. Entry into the home market by outsiders is initially forbidden, and later made difficult by the entrenched position. The result will be a pattern of exports without imports. In some sectors these processes are important; in others they are of much less significance.

We have explained in detail elsewhere in this volume earlier how closed Japanese markets once affected the dynamics of industrial competition. We have suggested that persistent barriers and asymmetrical relations continue to create structural advantages for Japanese firms in particular industries. Let us explore this line of analysis more carefully and consider how the effects at a sectoral level translate into general trade patterns. What matters for this discussion is that a domestic pattern of policy intended to achieve goals of creating advantage, promoting structural adjustment, or managing transition and decline can shape the pattern of trade in a sector.

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[2] The formal logic is that a particular industry structure, defined by the domestic structure of each of two countries and the nature of access of firms of each nation to the other country's market, predict a specific pattern of behavior. This analysis is simply an extension of traditional analysis of industrial organization (IO) to the pattern of trade between nations. It represents an IO approach to trade theory that differs from more traditional trade theory.

Our approach emphasizing the importance of policy will produce the same aggregate predictions as the model Saxonhouse employs—indeed for many of the same reasons, but it does a much better job of accounting for the pattern of trade in manufactures. A decision to promote rapid industrial development in Japan requires that a trade pattern of imported raw materials and exported manufactures be created. Since Japan has limited raw materials, it must import them. To pay for those raw materials it must export. Since the Japanese financial and insurance industries are not internationalized (although that is changing), the service sector cannot be a major source of foreign exchange earnings. Consequently, exports of manufactures must be exported for Japan to grow, and indeed this necessity is a political vulnerability. Therefore, the observed aggregate pattern of trade, in its most general form, would be a product of any conscious government policy of development. Japan must export manufactured goods.

The particular form—Japan's tendency relative to its trade partners not to import goods in sectors in which it exports—can be explained as a product of the particular form of conscious domestic development during the fifties and sixties. The policy has been well documented. There is no debate that during the 1950s and 1960s the government protected domestic markets for Japanese producers and aided those firms to acquire foreign technology. The government did so by denying foreign companies open access for goods to the Japanese market and denying entry for direct foreign investment. The multinational package of technology, capital, and management was broken up by government policies, which permitted Japanese companies to recombine the pieces under their own control. Second, a series of large, well-financed industrial groups created the basis of internal competition behind protected walls.

Intense domestic competition in a protected and rapidly growing internal market among firms that had access to international product and production technologies had predictable results. If this position is correct, then the continued difficulty of foreign firms to enter the Japanese market has great long-term significance. The policies we examined earlier begin to matter more. With apologies to the general reader let us at least set forth the outlines of a formal argument. Murakami and Yamamura have developed an intriguing analysis of the consequences, more precisely the advantages, of Japanese efforts to overcome technological backwardness.[3] As long as the Japanese were aggressive and systematic technology borrowers in a rapidly expanding domestic market, they faced a fundamentally different economic situation than that of foreign companies. Put formally, Japanese firms faced long-run declining cost curves, rather than concave cost curves. Assuming a concave cost curve, a firm will eventually face rising production costs as volume rises. To avoid rising costs it must innovate and jump to another production cost curve.

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[3] Yasusuke Murakami and Kozo Yamamura. A Technical Note on Japanese Firm Behavior and Economic Policy. In Kozo Yamamura, ed. Policy and Trade Issues of the Japanese Economy. Seattle, Univ. of Washington Press, 1982. p. 113-21.

A firm may make that jump if it can anticipate that an increase in demand will justify the investment, if rivals are making or likely to make that jump imposing competitive pressure to do so, and if the cost of innovation is low and success predictability high. Operating in a mature market with relatively advanced technologies, the difficulties and risk of that jump are high. Markets won't expand rapidly, so a new production technology must replace the old. New production technologies often have bugs, which make their introduction unpredictable. By contrast, Japanese firms face rapidly expanding demand and a stream of replacement production technologies available abroad. Therefore the jump to new technology is easier. One consequence is that profit-maximizing firms will attempt to maximize market share in order to have the volumes to introduce new technologies. (New technologies require that they capture both economies of scale and learning curve economies.) In other words, we need only assume that foreign companies with advanced technologies cannot overwhelm the Japanese market—for example, because it is protected—to predict much of the behavior of Japanese firms. There is no need to resort to arguments about the art of Japanese management or the character of the Japanese workforce.

The need to maximize market share drives a very intense domestic competition that leads often to overinvestment. Protected domestic markets, policies to promote an expansion of demand, and policies that provide finance to facilitate that expansion all sustain the competition for market share. As Zysman has written:

> The Japanese system, in my view, is one of controlled competition. There is every evidence of intense competition between firms but that competition seems to be directed and limited both by State actions and by the collaborative efforts of the firms and banks themselves. Though the State bureaucrats do not dictate to an administered market, they do consciously contribute to the development of particular sectors and they help in a detailed way to establish conditions of investment and risk which promote their long-term development and international competitiveness. An agency such as MITI (Ministry of International Trade and Industry) is not so much a strict director as a player with its own purposes and its own means of interfering in the market to reach them. Government industrial strategy assumes that the market pressures of competition can serve as an instrument of policy. It is not simply that the government makes use of competitive forces that arise naturally in the market, but rather that it often induces the very competition it directs. It induces competition by creating the market for products and the conditions for high returns, thus seemingly assuring a profit and attracting the entry of many competitors. The competition is real, but the government and the private sector also possess the mechanisms to avoid "disruptive" or "excessive" competition. Such limits on competition include product specialization agreed on within a set of competing firms and the often-cited cartels to regulate capacity ex-

> pansion in booms and cut-back arrangements in downturns. The fact that these arrangements to manage the market often break down should be taken as evidence that they do not operate or do not matter. In semiconductors today, as in steel a generation ago, these collaborative arrangements appear central to Japanese international success. In this setting, in which business collaborates as well as competes, the government appears as a marketplace actor, prodding here and promoting there.

MITI refers to this process as excess competition. It is a process that involves risks to domestic companies and consequently policies such as structural "cartels".

A second consequence is that surges in domestic investment in search of market share to continue down the production cost curve head to focused export booms. Excess domestic production can be sold abroad. Yamamura has termed such spurts as a "downpouring of exports."

The overall result is straightforward, and if correct, matters a great deal. Japanese firms built up internationally competitive product and production positions behind closed markets. Rapid growth with assured finance and protected markets permitted this follower nation to make the massive investments that embodied real innovation in production. There is no doubt that Japanese companies have achieved real innovation in the mass production of consumer durables in particular, or that such innovation has created real advantages in world markets, but such innovation must be understood at least in part as a function of past government policies. By the time domestic markets began to open, final markets in Japan were firmly held by Japanese producers. Entry by foreigners that would once have been based on substantial product or production advantage became difficult. Suddenly it would require displacing Japanese producers from convoluted distribution channels often tied to those producers. At the same time, Japanese manufacturers had begun to establish themselves in foreign markets.

Our interpretation accounts for the unique features of Japanese trade and the general pattern. The argument accounts for the aggregate pattern of trade along the same lines as the Saxonhouse position, but it also suggests that the unique features of Japanese trade—specifically its failure to import in sectors in which it exports—is a function of a strategy of trade and development. Moreover, it suggests that as sectors establish themselves as competitive in international markets, the sectors may be liberalized without producing a stream of imports. Our attention in this discussion should not be focused on the aggregate pattern of trade—which is inevitable if Japan is to exist as an industrial country and thus borders on tautology—but on two other matters: the pattern of intra-sectoral trade in which Japan is unique and the pattern of policy in advanced sectors where development strategies are applied.

No government, it should be clear, can simply shape trade patterns to its will. Japan has long used market forces as instruments of policy. It has chosen to accelerate and direct the market rather than to try to blunt it or override it. Despite the elimination of formal barriers, what many foreign observers fear is that domestic policies and practices continue to act as a barrier to entry and to the establishment and development of long-term market positions. Indeed, a pattern of promoting the development of "sunrise" industries, while managing the re-adjustment of more mature sectors faced with intense foreign competition, suggests a pattern of selective protection as an instrument of policy.

Japan for many years was a marginal market for the others. That is, the basic well-being of companies in France, Germany, and the United States might depend on many things. Being present in Japan was not one of them. That is no longer true. Japan's emergence as a strategic market, one in which the fate of companies is settled, is an important part of the present trade tensions. Entry to the Japanese market suddenly matters, and matters a great deal. Of course, since investments in a Japanese presence were not made in early years, the skills and experience needed to succeed now are not there. There has been a serious asymmetry which must now be overcome.

The trade debate has been about whether the Japanese government has selectively intervened at the sectoral level to promote outcomes that discriminate against foreign firms or unfairly advantage domestic industry. There should be no doubt that Japanese strength in world markets is based on real competitive foundations. It is not artificial and would not disappear no matter what changes—short of radical changes in the trading system—in Japanese or American government policy were to take place. Nonetheless, in our view, Japanese policy continues to shape outcomes at the sector specific level, and consequently shapes the intra-sectoral trade pattern.

# DIMENSIONS AND PERCEPTIONS OF THE TRADE PROBLEM WITH JAPAN

By Dick K. Nanto

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During the 1980s, the issue of U.S. trade with Japan has dominated public discussion of international trade more than any other such issue since the OPEC oil crises of the 1970s. This paper first outlines the dimensions of the trade problem with Japan as indicated by trade statistics. In the second section of this paper, the perceptions of Japan's decisionmakers on U.S.-Japan trade issues are summarized and comments are made on the implications of those views for U.S. policymaking.

## I. SUMMARY

The picture that emerges from the overview of the trends in trade with Japan is that the United States is facing a sizable and chronic deficit in merchandise trade that is being caused primarily (23) by a surge in U.S. purchases of Japanese manufactured products and to a lesser extent by a lack of growth in U.S. exports to Japan. The U.S. bilateral deficit in merchandise trade with Japan, while by far the largest, is not unique. Sizable deficits also exist in trade with Canada, Taiwan, West Germany, and several other countries.

Japan's trade barriers on certain U.S. exports keep them from rising fast enough to offset Japanese export surges to the United States. Estimates of the potential increase in U.S. exports from lifting Japan's remaining import barriers range from about $5 to $16 billion or about a third of the 1984 bilateral trade deficit with Japan.

U.S. exports to Japan are increasing faster than overall U.S. exports. As for the competitiveness of specific commodities (as measured by the bilateral balance of trade), American products such as cereals, meat, fish, tobacco, petroleum products, medicines, and chemical compounds are highly competitive in the Japanese market. The United States also holds a competitive edge, albeit declining somewhat, in Japan in items such as lumber, pulp, textile fibers, scrap metal, leather, paper, and nonferrous metals. Despite the U.S. comparative advantage in these products, however, U.S. exports to Japan have not been increasing as fast as U.S. imports of those products in which Japan is highly competitive.

The United States is much less competitive in the Japanese market in most other manufactured products. These include textiles, iron and steel, machinery, transport equipment, clothing, instruments, and metal and non-metal manufacturers. Since purchases of these types of products tend to rise as incomes rise, the bilateral trade deficit is unlikely to be reduced significantly and permanently by relying solely on opening Japan's markets for U.S. agricultural or raw material exports. U.S. exports of manufactured products will have to increase (or Japanese exports of such products will have to fall).

The overvalued dollar contributes heavily to the bilateral trade deficit, but a dollar depreciation is likely to increase, not decrease, the deficit in the short term before reducing it over the medium term. Depreciation of the dollar, however, would assist U.S. industries in competing with those from Japan both in domestic markets and abroad.

America's problem of a trade deficit with Japan is shared by other countries, even those such as France, Taiwan, and South Korea, who are considered to protect their home markets much more than does the United States.

In Japan's imports, the United States has held its market share over the past decade, but other countries that export manufactured goods, such as the European Community, South Korea, and Taiwan, have been gaining market share. Despite all the pressures by the United States on Japan to open its markets to U.S. products, since 1975 American exports have been doing no better than total exports from all countries and more poorly than exports from certain other countries.

The perceptions of Japan's decisionmakers on U.S.-Japan economic relations and implications for U.S. policymaking reported in this paper are based on interviews during the summer of 1982 of more than 60 individuals selected from Japan's economic elite. In terms of growth rates, those interviewed expect them to be in the 3 to 4 percent range over the next 5 to 10 years. This implies that Japan is unlikely to provide a rapidly expanding market for U.S. exports unless their exports are liberalized.

The decisionmakers viewed the two countries as being mutually dependent on each other, but Japan being more dependent on the United States than vice versa. In a trade war, therefore, Japan is believed likely to be hurt more than the United States. The two countries, however, are increasingly being linked through direct private investments, technology transfers, and joint ventures. The future pattern of competition in industries with rapidly changing technology, therefore, is likely to be among consortia of American Japanese firms linked together and competing with similar consortia of firms, rather than for industries in Japan to be competing with industries in the United States.

Japanese economic elites see the relationship with the United States as sound, but with problems. Disputes over trade have not undermined the overall strength of the relationship. Underlying causes of the trade friction were seen as long-term structural change in the relative economic strength of Japan, short-term recessionary economic conditions, the extent to which development in communications has lagged behind the expansion of economic interaction, and Japan's residual export barriers. The view among Japanese decisionmakers that misperceptions and lack of communication are more important causes of trade friction than import barriers is reflected in their tendency to spend considerable time talking about an issue instead of taking what Americans would consider to be direct action.

Japan's society is split on the extent to which agricultural export barriers should be lifted. Big business tends to view protection of agriculture as having become a symbol of Japan's closed markets and advocates further liberalization. The urban and industrial sectors, therefore, are powerful potential allies of the United States in attempts to open Japan's agricultural markets further.

Most of those interviewed felt that Japan's industrial markets had been quite protected in the past but currently are generally as open as those in other countries. Their perception, perhaps colored by the large number of Fortune 500 firms actually successful in Japan, points to the need by the United States and other countries to publicize in Japan what they consider to be export barriers.

Virtually all those interviewed saw more trade friction occurring over the next five to ten years, particularly in high-technology industries, agricultural products, and service industries. They tended to view such friction, however, as part of an ongoing process and inevitable in a dynamic relationship. Solving one problem, however, merely brings another up on an American agenda that appears to Japanese to have no end.

Concern over the impact of trade friction on the overall relationship appears to be the lowest among businessmen and the highest among government officials. Businessmen apparently view their strong export push as legitimate and what good businessmen should be doing. They find it difficult to accept the possibility that their actions could be the primary cause of a serious breach in U.S.-Japan relations.

Effective methods of resolving problems in the relationship cited by the Japanese decisionmakers included better communications, a stronger U.S. economy, reduced export barriers in Japan, bilateral negotiations, restraints on Japanese exports, and more Japanese investments in the U.S. economy. Excessive U.S. pressures were thought to be ineffective in resolving issues, but many admitted that outside pressure lubricates their decisionmaking process.

Although the central government is powerful, decisionmaking in Japan is decentralized with many interest groups competing for power. Consensus building takes a long time, although the ruling Liberal Democratic Party and the Prime Minister appear to be asserting themselves more than at any time in the postwar period.

## II. Trends in Trade [1]

### A. ABSOLUTE SIZE OF THE TRADE DEFICIT WITH JAPAN

The U.S. merchandise trade deficit with Japan is the largest of any such deficit and is growing. It has risen from $1.2 billion in 1970, to $9.9 billion in 1980, to $19.3 billion in 1983, and to $33.6 billion in 1984 ($36.8 billion if shipping costs for imports are included). The deficit is projected to increase further in 1985.

### B. RELATIVE SIZE OF THE TRADE DEFICIT WITH JAPAN

Since 1981, the trade deficit with Japan has been declining as a percent of the overall U.S. trade deficit, because the overall deficit has been growing even faster. In 1977, the trade deficit with Japan accounted for 30 percent of the total U.S. trade deficit. It peaked at 57 percent in 1981, after which it dropped to 34 percent in 1983 and 31 percent in 1984.

### C. TRADE DEFICITS WITH OTHER COUNTRIES

Although the U.S. merchandise trade deficit with Japan is the largest, in 1984 the United States also incurred a $20 billion deficit with Canada, a $10 billion deficit with Taiwan, an $8 billion deficit with West Germany, and a $6 billion deficit with Mexico.

### D. MERCHANDISE TRADE DEFICIT WITH JAPAN IS A CHRONIC PROBLEM

The trade deficit with Japan has existed for nearly two decades. It appeared in 1965 but remained at less than $5 billion until 1976. In the 1980s it climbed to the $20 and $30 billion levels. It will likely continue for some time.

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[1] Data in this section are from the U.N. Trade Data System on the TradeNet data bank of the U.S. Trade Policy Staff Committee. Some of the actual data are reported in the appendix to this volume.

### E. MERCHANDISE TRADE DEFICIT NOT OFFSET BY A SERVICES TRADE SURPLUS

Although the bilateral deficit on current account (which includes trade in services, military transfers, and unilateral transfers) with Japan is often smaller than the bilateral merchandise trade deficit, the difference is relatively small. In 1983, for example, the bilateral current account deficit was −$18 billion, while the bilateral merchandise trade deficit was −$19 billion.

Japan's overall current account balance has been in surplus since 1981 and rose to $21 billion in 1983 and $35 billion in 1984. The overall U.S. current account balance, although in surplus as recently as 1981 (after deficits in 1977-78), dropped to record lows of −$42 billion in 1983 and −$102 billion in 1984.

### F. U.S. EXPORTS TO JAPAN ARE RISING FASTER THAN EXPORTS TO MANY OTHER COUNTRIES

Since 1975, U.S. exports to Japan have increased by 147 percent or about 40 percent more than overall U.S. exports. The growth in U.S. exports to Japan also compares favorably with increases in such exports to other countries (see table 1).

TABLE 1.—INCREASES IN AND AMOUNTS OF U.S. TRADE WITH SELECTED COUNTRIES AND REGIONS

[In billions of dollars]

| Country/region | U.S. exports | | U.S. imports | |
|---|---|---|---|---|
| | 1975-84 increase (percent) | 1984 amount | 1975-84 increase (percent) | 1984 amount |
| World | 103 | 217.9 | 236 | 325.7 |
| Japan | 147 | 23.6 | 400 | 57.1 |
| United Kingdom | 170 | 12.2 | 284 | 14.5 |
| Canada | 114 | 46.5 | 200 | 66.5 |
| France | 99 | 6.0 | 275 | 8.1 |
| West Germany | 75 | 9.1 | 214 | 17.0 |
| Taiwan, Hong Kong, Singapore, and South Korea | 239 | 17.7 | 562 | 36.7 |
| Communist areas in Europe and Asia | 133 | 7.2 | 586 | 5.2 |
| European Economic Community | 101 | 47.0 | 240 | 57.4 |
| 20 Latin American Republics | 68 | 26.3 | 257 | 42.3 |

Source: Based on data from U.S. Department of Commerce.

### G. U.S. IMPORTS FROM JAPAN ARE RISING FASTER THAN IMPORTS FROM OTHER COUNTRIES

Since 1975, U.S. imports from Japan have increased by 400 percent. This is quite high when compared with increases in imports from other countries, as shown in the following table. The bilateral deficit is being caused by a surge in imports from Japan, not a lack of growth in U.S. exports to that country.

### H. U.S. TRADE BALANCES WITH JAPAN IN SPECIFIC COMMODITIES

It terms of specific commodities, U.S. agricultural products remain highly competitive in Japan. In 1984, Japan bought $7 billion worth of U.S. agricultural products or 18 percent of all such U.S. exports—more than any other single country. Since 1975, the

U.S. surplus in trade with Japan has been increasing in products such as meat; fish; cereals; fruit; tobacco; and oil seeds, nuts, and kernels. Also rising are U.S. trade surpluses in petroleum products, natural gas, medicinal products, and chemical compounds.

Although up from 1975, in recent years the U.S. surplus with Japan has been declining in wood and lumber, pulp, textile fibers, scrap metal, leather, paper, and non-ferrous metals. Bilateral trade deficits have been increasing in most other manufactured products, including textiles, iron and steel, machinery, transport equipment, clothing, instruments and clocks, and metal and non-metal manufactures.

Over the past decade therefore, U.S. competitiveness vis-a-vis Japan has been declining in most manufactured products, although it remains strong in agricultural commodities and some raw materials. Since the income elasticity for food and many raw materials, however, tends to be less than unitary (the share of income spent on these products tends to fall as income rises), the bilateral deficit is unlikely to be reduced significantly unless U.S. exports of manufactured products make significant inroads into Japan. Even if both markets are equally open, the demand in Japan for exports of U.S. agricultural products or raw materials is not likely to keep up with the demand in the United States for Japan's consumer and industrial products. (Although, as Japan's import quotas on beef and oranges are lifted, U.S. exports should enjoy a one-time surge to a higher level.)

### I. JAPANESE CONSUME AMERICAN PRODUCTS

The large size of the U.S. trade deficit with Japan is not completely indicative of the extent to which its people consume American products. On a per capita basis, Japanese consume nearly as much in American products as Americans buy of Japanese products. In 1984, each American consumed an average of $240 worth of imports from Japan ($57,135 million/236.0 million people), while each Japanese consumed an average of $195 worth of imports from the United States ($23,575 million/119.5 million people). Of course, Japan's population is smaller than that of the United States.

Nearly all U.S. imports from Japan, however, are manufactured products such as cars, machinery, television receivers, or video cassette recorders, which can be identified as being made in Japan. Only half of Japanese imports from the United States, however, are manufactured products which can be distinguished as being made abroad. Japanese buyers of soybean curd, noodles, or beef, for example, do not usually link them to U.S. exports of soybeans, wheat, or feed corn.

### J. EFFECT OF JAPAN'S TRADE BARRIERS

Estimates of the potential increase in U.S. exports from lifting Japan's remaining import barriers range from about $5 to $16 billion. The lower estimate of $5–$8 billion is from the Institute for

International Economics, while the higher is from the U.S. Department of Commerce.[2]

These estimates are based on three categories of barriers: government obstacles, private economic structure, and a joint role of government obstacles and economic structure. Government obstacles include restrictions on products such as fish, rice, beef, and citrus (import quotas); medical equipment, pharmaceuticals, cosmetics (licensing, standards, and patent obstacles), and services (insurance regulation). These products account for about one-third of the $5 to $16 billion potential U.S. gains from Japan's import liberalization.

The categories with barriers based primarily on non-governmental economic structure include electronics components (reciprocal purchasing among companies), petrochemicals (control over pipelines and unloading), gas, coal, aluminum, and machine tools (industrial groupings). Categories with a joint role of government and private sector obstacles include telecommunications, paper, wood, tobacco products, and processed food.

The divergence in the size of the estimates stems from the assumptions made about potential U.S. market share in Japan for the above products in the absence of trade barriers. The $5-$8 billion figure is based on the assumption that U.S. firms could gain roughly the same market share in Japan that they have in the world, with some adjustments. The $16 billion figure by the U.S. Department of Commerce assumes that U.S. exports would gain at least the same share of the Japanese market that they have in the world, but have considerably higher shares in several products, including telecommunications equipment, paper, cigarettes, cosmetics, oil, and coal.

Either estimate indicates that Japan's barriers to imports do keep some American exports from expanding rapidly enough to offset that country's export surges to the United States. More liberalization is required before U.S. exporters are assured complete access to Japan's consumers.

### K. EFFECT OF THE OVERVALUED DOLLAR

Some of the bilateral trade deficit with Japan can be attributed to the overvalued dollar. Not only does it give Japanese exporters a margin to lower their U.S. prices or increase their profits, but U.S. exporters have seen their prices and profits squeezed in Japan.

While a dollar depreciation would immediately assist U.S. firms in competing with foreign producers, its effect in reducing the trade deficit would take more time. The short-term effect of reduction in the value of the dollar relative to the yen, would likely be an increase, not decrease, in the bilateral trade deficit. This deficit eventually would decline, but probably not for a year or so. This is referred to as the inverted J-curve effect, since the deficit rises before it falls.

As the dollar depreciates, U.S. importers—fearing further depreciation and price increases—accelerate orders of merchandise from Japan. Also, since many Japanese exports tend to be associated with brand names (such as Toyota cars, Sony video recorders, and Seiko watches), some of the dollar depreciation can be offset by increases in export prices. With higher prices, some sales might be lost, but total dollar receipts rise until some U.S. buyers can switch to other sources of supply. The dollar value of Japanese exports to the United States, therefore, actually increases over the short term before it eventually decreases over the medium term.

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[2] Bergsten, C. Fred and William R. Cline. The United States-Japan Economic Problem. Policy Analyses in International Economics 13. Washington, Institute for International Economics, 1985. p. 106-16.

In 1978, for example, when the dollar depreciated against the yen, the bilateral trade balance with Japan jumped from $8.0 billion in 1977 to $11.6 billion in 1978 before falling to $8.7 billion in 1979.

An econometric simulation by Data Resources, Inc. (stored in their data bank as Dollarfall0485) done in April 1985 indicates that a decline in the value of the dollar of about 11 percent overall would result in an increase in the global U.S. trade deficit of about $15 billion the first year but a decrease of about $35 billion by the third year.[3] In other words, a 1 percent drop in the value of the dollar, eventually brings a $3 billion drop in the U.S. trade deficit.

## L. THE U.S. TRADE POSITION WITH JAPAN

U.S. data show that among U.S. trading partners, American exports to Japan have been increasing at a favorable rate. The question remains, however, of how well U.S. exports are performing in terms of all of Japan's trading partners. Is Japan's trade surplus with the United States unusual or typical of Japan's overall trade pattern? [4]

According to Japanese trade statistics, Japan ran a $21.8 billion merchandise trade surplus with the world in 1983, of which $18.6 billion or 85 percent was with the United States.

Note that U.S. trade statistics show a deficit with Japan in 1983 of $19.3 billion ($21.7 billion including shipping costs) instead of the $18.6 billion reported by Japan. This can be attributed to differences in statistical procedures (sampling versus actual counting), the lag between the time an item is exported and when it clears customs in the U.S. port to be counted as an import, and the treatment of transportation costs. Japan, therefore, reports the trade deficit to be smaller than what the American data show.

The general pattern of Japan's trade balances is that it runs surpluses with developed countries with large consumer markets and also surpluses with developing countries without energy or major food or raw materials to sell, but deficits with countries that are major exporters of energy, food, and raw materials. As for the U.S. deficit, even though Japan does import sizable quantities of American food and raw materials, its exports of manufactured goods to the massive U.S. market more than match the food imports to create the trade imbalance.

In terms of specific markets, in 1983 Japan incurred a trade deficit of $23.1 billion with the OPEC nations, $2.5 billion with Oceania, and $4.6 billion with the ASEAN (Association of Southeast Asian Nations) countries. It also had a $0.7 billion deficit with

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[3] This simulation is briefly described in: Note of Dollarfall0485. Data Resources, Inc. Review of the U.S. Economy, April 1985. p. A35-36.

[4] Data in this section are from the U.N. Trade Data System.

Canada. As for trade surpluses, with the European Community it had a surplus of $10.8 billion, including $3.5 billion with West Germany, $0.8 billion with France, and $3.4 billion with the United Kingdom. With Hong Kong, Japan's trade surplus was $4.6 billion, with South Korea $2.6 billion, and with Taiwan $2.5 billion.

The problem of a trade deficit with Japan, therefore, is not just an American problem. It is shared by other nations without raw materials or food to export, even those considered to protect their home markets much more than does the United States.

Japan also is able to run trade surpluses with many nations or regions with which the United States runs deficits. In 1983, for example, although both countries experienced deficits with the OPEC and ASEAN nations and Canada, the United States incurred deficits additionally with the European Community, Hong Kong, South Korea, and Taiwan. (See table Q, Appendix.)

Are imports from the United States being discriminated against by Japan? Between 1975 and 1983, Japan's imports from the world rose by 116 percent. Imports from the United States increased by a similar 113 percent, while those from the European Economic Community rose by 124 percent, from OPEC by 117 percent, from South Korea by 156 percent, from Taiwan by 223 percent, and from Hong Kong by 173 percent.

The United States, therefore, is maintaining its share of Japan's imports, but other countries that export manufactured products have been gaining market share (although they are increasing from a lower initial base). Since the United States is taking the lead in opening Japan's markets, however, it is surprising that Japanese imports from the United States are not rising faster than its overall imports.

## III. Japanese Views of the Relationship With the United States

In this section of this paper, recent perceptions of Japan's decisionmakers on U.S.-Japan trade issues are summarized and comments are made on the implications of those views to resolving problems between the two countries.

This information was gathered from personal interviews with more than 60 members of Japan's economic elite during the summer of 1982.[5] The persons interviewed included members of the Diet (House of Representatives), government officials, business and media executives, professors, and research directors.

While some of the views might have changed since the interviews were conducted, the basic attitudes and the reasons why the opinions are held most likely remain—an element of the cultural inertia that keeps the character of any nation consistent and recognizable over long periods.

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[5] For details, see U.S. Library of Congress. Congressional Research Service. Perceptions of Members of Japan's Economic Elite on U.S.-Japan Trade Issues. Report No. 83-89 E, by Dick K. Nanto. Washington, 1983. Interviews were conducted in Japanese and in Japan. The sample was purposive and was selected from a list of influential Japanese maintained by the American Embassy in Tokyo. It included 9 members of the House of Representatives, 15 government officials, 21 corporate executives, 7 officers of business research organizations, 5 from the media, and 5 from academe. Those interviewed were aware that their views were to be reported to the U.S. Congress. Because of the small number of persons interviewed, the results should be considered indicative of perceptions of all members of Japan's ecomomic elite and not the results of a methodologically rigorous survey of opinion.

The major findings, with comments follow.

### A. JAPAN'S ERA OF DOUBLE-DIGIT ECONOMIC GROWTH RATES HAS ENDED

For the next five to ten years, growth was expected to average 3.3 percent. (This number represents the average of the estimates by the respondents.) Most saw the economic gap between the United States and Japan closing even further. Most felt uneasy, however, with the idea that Japan would overtake the United States and assume world leadership in the economic sphere, even though they realize that in some industries it has already done so. Many also emphasized that even if Japan's per capita income surpasses that of the United States, their quality of life would still be much lower because their country is crowded and the price of land is high.

An implication of this lower growth rate for the bilateral trade balance is that the Japanese economy cannot be expected to provide a rapidly expanding market for U.S. exports. Major increases in U.S. exports to Japan will have to come at the expense of domestically produced Japanese goods. Opposition to liberalizing imports, therefore, will likely remain strong. Japanese producers facing slower portion of their output to foreign markets—including the American.

### B. JAPAN IS HIGHLY DEPENDENT ON THE UNITED STATES, BUT DEPENDENCE IS MUTUAL

Nearly all interviewees saw Japan as being more dependent on the United States than vice versa, although two-thirds also saw the dependence as mutual. Japan was viewed as depending on the American economy for an export market, supply of food and raw materials, defense, technology, and leadership. The United States was seen as depending on them for an export market and a supply of industrial goods.

Assessments of the extent of the dependency relationship ranged from comments that Japan was like the fifty-first state to many who emphasized that the two countries were indispensable economic partners and should treat each other as equals.

Most persons interviewed felt that the interdependency between the two countries would continue and even deepen, particularly in terms of capital investment, technology transfer, and invisible trade—such as insurance and banking. More and more American firms were seen to be locating in Japan, while Japanese firms were establishing manufacturing operations in the United States.

As for implications of these views for the U.S. decisionmaking, they reinforce the general American perception that a trade war between the two countries is likely to hurt Japan much more than the United States. Japan is more dependent on us than we are on them. The leverage is on the U.S. side, although each side would be hurt if current disputes deteriorate into a vicious circle of retaliation.

The increase flow of direct investment, technology transfer, and other linking of firms between the two countries indicates that the nature of competition is undergoing a major shift. The prevailing pattern in discussions of bilateral trade is that of American firms competing with Japanese firms in a certain industry. The emerging pattern is one of consortia of firms—American and Japanese (plus European)—in an industry linked across national boundaries and competing, not with each other, but with other cousortia of similarly linked firms.[6]

### C. FUNDAMENTAL INTERESTS COINCIDE, BUT SOME ARE IN CONFLICT

Three-quarters of the persons interviewed perceived both countries as sharing a common economic interest in maintaining a liberal world trading system. About half saw a mutual interest in economic systems based on free enterprise. Conflicts of interest occurred in trade competition, economic sanctions against the Soviet Union, the race for development of high technology products, and U.S. economic policies that indirectly influence the Japanese economy. The recent American high interest rate policy, for example, was perceived to have exerted a negative effect on the value of the yen and thwarted Japan's attempts to correct its trade inbalances.

In terms of implications for the United States, this reaffirms the fact that Japan belongs to the exclusive club of advanced industrial countries based primarily on the market system. Like the United States, it also has a stake in maintaining the liberal international trading system and presumably is also willing to adopt measures to do so.

Even though the broad interests of the two countries generally coincide, Japan can be adversely affected by specific U.S. policies. Japan, however, apparently has passed the point where it can be satisfied with merely following the U.S. lead or "catching pneumonia every time the United States sneezes." It views its interests as being important, even though they might conflict with those of the United States.

### D. BILATERAL RELATIONSHIP SOUND, BUT PROBLEMS EXIST

Nine out of ten of the persons expressed the view that the bilateral relationship was basically sound, although serious problems exist. Most of the remaining respondents saw it as sound with no serious problems, and only a few saw it as poor.

During the course of the interviews, a surprisingly large number of individuals appeared to exhibit a low level of anxiety about reports of growing protectionism in the United States, despite the publicity it had been receiving in the Japanese media. Apparently this was not because it was viewed as unimportant, but because they considered it manageable.

As for implications for the United States, these views indicate that the disputes over trade have not undermined the overall strength of the relationship. A major negative backlash to American pressures had not developed. Most also were confident that trade problems could be handled, if not in a routine manner, at least without major breaches in the relationship.

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[6] For a discussion of this trend, see: Ohmae, Kenichi. Triad Power, The Coming Shape of Global Competition. New York, The Free Press, 1985. 220 p.

### E. SERIOUS PROBLEMS EXIST IN AREAS SUCH AS TRADE, COMMUNICATIONS, JAPAN'S TRADE BARRIERS, POOR ECONOMIC CONDITIONS, AND INDUSTRIAL COMPETITION

When asked what they felt were the most serious problems in the bilateral relationship, virtually everyone cited trade in general, and most pointed to a gap in communications. Roughly half mentioned Japan's agricultural trade barriers, the bilateral trade imbalance, the U.S. recession which was at its worst when the survey was made, Japan's trade barriers in general, Japan's catching up and competing directly with the United States, automobile trade, American impatience, excessive American pressure, and their low defense expenditures.

Roughly a third cited Japan's industrial competitiveness, excessive attention to bilateral problems by the media, business practices in Japan, high U.S. interest rates, industrial spying, American moral judgments on Japan, the high-technology race, Japan's distribution system, cultural differences, and Japan's food insecurity.

Other problems mentioned were the weak yen, U.S. political sanctions on exports, the political fervor in U.S. elections, Japan's being made a scapegoat by the United States for American domestic problems, and trade in steel.

### F. UNDERLYING CAUSES OF TRADE FRICTION

Behind the above list of problems in the relationship seem to lie four fundamental contributing factors. These are: (1) long-term structural change in the relative economic strength of Japan; (2) short-term recessionary economic conditions; (3) the extent to which development in communications has lagged behind the expansion of economic interaction; and (4) Japan's residual import barriers.

#### *1. Japan is catching up with the United States but being chased by NICs*

Japanese view economic growth as a linear process in which countries move from one stage to another. The United States has long led the way in this process, but their country is now catching up, and the newly industrializing countries (NICs) are on their heels. If the United States does not keep ahead of Japan, the two countries are headed for a prolonged period of head-to-head competition and confrontation.

In terms of implications for the United States, this view of the world as a foot race in which Japan is catching up and passing other countries stands in stark contrast to the prevailing view during most of the post-World War II period of the United States as a technological and economic giant that simply dominated all other countries. World-class industries now exist, not only in the United States, but in Japan and other countries. It also highlights the separation, in Japanese minds, of economics and defense. They see the economic race as occurring independently of considerations of the U.S. nuclear umbrella or the arms race.

Japan's fear of competition from the NICs, particularly in labor-intensive manufactures, indicates that their industries will continue to move up the technology ladder into areas heretofore the domain primarily of American companies. No U.S. industry, even aerospace or biotechnology, will escape being challenged by competition from Japan.

### *2. Poor world economic conditions contribute to trade friction*

About half of the decisionmakers interviewed cited recessionary economic conditions that periodically plague nations as an important short-term cause of bilateral trade friction. As world economic conditions improve, they felt that trade friction would subside.

In addition to recessionary economic conditions, one-third of the respondents thought high U.S. interest rates were crippling economic recovery and contributing to trade problems. In the process of fighting inflation through higher interest rates, investment in U.S. plant and equipment might suffer so much that the manufacturing sector would be weakened.

In terms of implications for the United States, many decisionmakers seemed to feel that trade friction with the United States is cyclical—it rises and falls with economic and political conditions. Such a perception gives rise to the notion that if bilateral disputes can be put off long enough, they will disappear. In bilateral negotiations, therefore, the fundamental nature of the trade complaints could be given more emphasis. It could be emphasized that American pressures for trade concessions from Japan are not merely a response to complaints from industries that are faced with deteriorating balance sheets or to another issue in a political campaign. They are real and need to be resolved regardless of the state of the business or political cycle.

### *3. Gap in communications is large*

Most of the respondents viewed the gap in communication and mutual understanding between the two countries as a major contributor to difficulties in the relationship. This gap arose partly because the economic interface has expanded far faster than the flow of information needed to support it.

More than a third of those interviewed felt that the common characterization that their economy was closed and protected by import barriers and that their government was unresponsive to U.S. requests for liberalization was wrong. Others felt that the stereotype of Japan, Inc., the triad of government, business, and political interests linked in a comprehensive and sinister power alliance, not only was inaccurate, but gave the impression that their government could do things that it really could not.

Many indicated the hope that if Americans only knew more about Japan and the obstacles it faces in responding to requests for trade liberalization or greater defense expenditures, Americans would be more tolerant and patient with them. A sizable gap seems to exist, therefore, between American and Japanese perceptions of the speed at which their market is being liberalized. While most Americans would probably describe the process and proceeding at a "snail-like" pace, the Japanese decisionmakers characterized it as rapid.

As for causes of the communications gap, Japan appears to be justified in pointing out that relatively few Americans speak their language or understand their culture. They also perhaps are justified in feeling that Americans still carry a 1970s view of Japan and have not given them sufficient credit for the difficult steps already taken to open their economy to foreign products.

The Japanese emphasis on perception and communication gaps as a cause of bilateral trade friction also helps explain why they seem to spend so much time talking about an issue instead of taking, what Americans would consider to be, direct action. While the Japanese approach might appear to be a stalling tactic, in many cases they sincerely believe that the issue is one of a gap in perceptions or communications and not a real underlying problem.

### *4. Japan's residual import barriers cause friction*

Agricultural import barriers, certain Japanese business practices, and Japan's distribution system were widely acknowledged as sources of trade friction.

#### *a. Debate over Japan's agricultural trade barriers splits country*

In terms of Japan's residual trade barriers, import quotas on beef and oranges were frequently cited. These were considered to be political, not economic, problems. National debate over the extent to which further import liberalization is necessary had split Japanese society. On one hand were those members of the Diet representing agricultural areas, the Agricultural Ministry, and farmer interest groups who favor continued protection. On the other side are the industrial sector, the Ministry of International Trade and Industry, Foreign Ministry, and many in media and academe pushing for more liberalization—but with caution and patience.

*i. Protection for agriculture advocated by interests.*—Agricultural interests, who have disproportionate political powers in Japan, advocate continued protection from imports because of the need for food security, and because of the immobility of Japan's agricultural workers. Advocates of barriers to agricultural imports also argue that Japan's industrial exports caused the trade friction, hence, industrial products should bear the burden of adjustment. They point out that Japan already incurs a large deficit in agricultural trade with the United States.

Oranges and beef are also viewed by some to be a forward line of defense against U.S. pressures to liberalize rice imports. They realize that California rice is of similar quality and far less costly than their own. One member of the Diet pointed out that the Japanese Ministry of Foreign Affairs buys American rice for use in its overseas embassies. In the eyes of many, however, unrestricted rice imports would destroy the country's rice culture. And rice culture is considered by many to be the spiritual essence of their nation.

*ii. Industrial interests advocate further liberalization.*—Big business tends to view agricultural protection as having become a symbol of Japan's closed markets and advocates further liberalization of agricultural import quotas. They see that large export markets for industrial products are being placed at risk in order to protect a small population of farmers.

In terms of implications for the United States, the debate over protection of agriculture and the division within Japan's society that it has caused indicates that American food exporters do have allies within Japanese society whose influence can be valuable. The urban and industrial sectors are potential allies of the United States in attempts to liberalize Japan's agricultural imports. The debate also illustrates, however, the importance of food security to a people who suffered from a naval blockade of their food supply during the closing years of World War II. Food security in land-scarce Japan is given an emphasis similar to national security in the United States.

### *b. Industrial protection claimed to be no worse than in other countries*

In terms of industrial products, most of those interviewed felt that Japan's market had been quite protected in the past but currently is generally as open as those in other countries. Only a few mentioned import restrictions on tobacco products, and fewer yet felt that Japan's tariffs were a problem.

Many pointed to the large number of Fortune 500 firms operating successfully in Japan. They also felt that their consumers are attracted to foreign products for their snob appeal. Items such as American oversized tennis rackets and golf clubs, for example, have recently been enjoying strong sales in Japan. One cultural barrier, however, is that imported goods are expected to be of very high quality but extremely expensive. Many importing companies feel that if they do not charge a high price, they will not sell any imports. This naturally limits sales.

The relatively large number of Japanese who perceive their market to be as open to imports of industrial products as those in other industrialized countries is indicative of the need for the United States and other countries to publicize in Japan what they perceive to be import barriers. Indeed one frequently heard comment by Japanese in response to market-opening measures by the Japanese government is that they were somewhat disappointed to learn that the government was still restricting imports in that manner.

The perception is still widely held in Japan that foreign products must be expensive to be good. This is a major hindrance to the broad acceptance by consumers of American products.

## G. MORE TRADE FRICTION AHEAD

Virtually all those interviewed foresaw more trade friction over the next five to ten years. Given the competition between the two countries, problems are likely to arise in high technology industries, agricultural products, service industries, and other areas.

When asked what the consequences would be if the bilateral trade problems were not resolved, most answered that they could not envisage a future in which trade problems would not be resolved. In other words, current and future trade problems not only could be, but had to be, solved. They would not be allowed to go unattended and fester into larger problems.

In terms of implications for the United States, the decision-makers saw the current problems and their solutions as part of an ongoing process. All problems cannot be solved, since new ones keep emerging. Such conflicts, however, were inevitable in a dynamic relationship, but could be worked out satisfactorily. These perceptions indicate that Japan is quite willing to work out its differences before they fester into large issues. There is a tendency, however, with such a view of bilateral relations, to delay solving problems, because solving one merely brings another up on the agenda.

### H. LEVEL OF CONCERN OVER FRICTION IS LOWEST AMONG BUSINESSMEN

Concern over the impact of trade friction on the overall bilateral relationship was highest among government officials and lowest among businessmen. The high percentage of business executives indicating a low level of concern was somewhat surprising in view of the large amount of publicity trade issues have been receiving in Japan.

Business executive, however, seem to feel that they are doing precisely what good businessmen should do. They are being competitive in world markets and providing the consumer with high quality products. It is difficult for them to accept the possibility that their actions could be the primary cause of a serious breach in U.S.-Japan relations. Businessmen also seem to feel that whether or not trade friction caused deterioration in the bilateral relationship depends on the U.S. not Japanese, reaction. In their eyes, the friction originated from the American, not Japanese, side. Their expression of a low level of concern, therefore, could have been a type of hope that the American side would not allow the trade disputes to sour the overall relationship.

### I. EFFECTIVE METHODS OF RESOLVING PROBLEMS INCLUDE BETTER COMMUNICATIONS, A STRONGER U.S. ECONOMY, REDUCED IMPORT BARRIERS, NEGOTIATIONS, AND EXPORT RESTRAINTS

When asked what they considered to be effective methods of resolving bilateral economic problems, eight out of ten thought more communications at all levels, including exchange of personnel, were necessary. More than half emphasized the importance of sound U.S. economic policies. Other methods were an early-warning system, reduced Japanese import barriers, bilateral negotiations, Japanese export restraints, and more Japanese investments in the U.S. economy.

The emphasis on communications reflects the strong Japanese tradition of problem-solving through consultation and mutual accomodation. The U.S. Congress was seen as a particular target for improved communication. Many said they were just beginning to understand the importance of Congress in U.S. trade policy.

In terms of U.S. economic policies, in addition to sound policies to secure economic recovery and lower interest rates, some felt that the United States would be justified in temporarily protecting certain industries in order to allow their adjustment to a new, more competitive market—provided there was a firm timetable for modernization.

Many saw the need for an early warning system to alert both sides to problems before they become crises. These persons praised the Japan-United States Economic Relations Group (Wisemen), Japan's Office of Trade Ombudsman, the Trade Study Group in Tokyo, and the bilateral Trade Facilitation Committee as valuable for this function.

For their own part, more than a third of the persons interviewed thought that bilateral trade friction could be alleviated if Japan reduced its import barriers, while one in five felt that Japan should restrain its exports to the Untied States. Only one in ten thought that Japanese firms should invest in manufacturing subsidiaries in the United States.

In terms of implications for the United States, the responses again highlight the Japanese perception that a communications gap is at the heart of many of the trade problems. The emphasis on sound U.S. economic policies reflects the view that Japan is being made a scapegoat for adverse economic consequences of American policy decisions. Indeed the international consequences of some U.S. policies, such as the breakup of the American Telephone and Telegraph Company or a macroeconomic policy combining large budget deficits with relatively high interest rates, have not always been fully anticipated by American policymakers.

The fact that fewer than half of the interviewees even mentioned the reduction of Japan's import barriers as an effective method of resolving trade issues again highlights how much these respondents viewed the bilateral friction as being caused, not by their trade barriers, but by American perceptions or misperceptions of them.

### J. U.S. PRESSURES NOT ALWAYS EFFECTIVE BUT LUBRICATE SYSTEM

Almost half cited excessive U.S. pressures as an ineffective methord of resolving bilateral economic issues, even though many admitted that outside pressure lubricates the Japanese decisionmaking process.

When asked specifically about what they thought of congressional and other U.S. pressures on Japan, four out of ten said they do not like the pressure, but that such tactics seem to work. A little more than a third replied that the pressures were both counterproductive and offensive, but that they understand the political forces on Congress and why Members of Congress have to do what they do. Fewer than a third mentioned the danger of a backlash from U.S. pressures. Several government officials were concerned that U.S. demands were shifting to areas in which the government has little authority to intervene.

### K. TRADE POLICYMAKING IS CENTERED ON MITI BUT OTHER MINISTRIES, THE DIET, AND THE LDP ALSO PLAY KEY ROLES

The key actors in Japanese economic policymakng toward the United States were seen as institutions not individuals. The Ministry of International Trade and Industry was seen as holding primary responsibility for trade issues, but the Foreign Ministry was in charge of diplomacy, as well as of setting issue priorities. Other Ministries, such as Finance and Agriculture, entered when their areas of jurisdiction were involved.

A frequent point was that no central institution existed for resolving differences among the various ministries. Hence, decisionmaking tended to be a long, tedious process of generating a workable consensus.

The Liberal Democratic Party, which held the Prime Ministership and all cabinet positions, was seen as playing an important role through both the bureaucracy and the Diet. The LDP established broad policy guidelines directly through its party apparatus. It was acknowledged as a force behind fundamental policy objectives such as maintaining the U.S.-Japan Security Treaty and harmonious relations with the United States. The party was instrumental in market liberalization measures, but it was also seen as particularly powerful in protecting agricultural interests.

The Diet tends to be domestically oriented but plays an important role in matters of agriculture and defense. Laws are drafted by the bureaucracy. The Diet, therefore, puts pressure on the bureaucracy in the drafting stage of laws.

In business circles, Keidanren (The Federation of Economic Organizations) was judged as effective in influencing policy and as a strong voice for trade liberalization.

In terms of policy implications for the United States, Japan is best seen and approached much like other democratic societies. Although the central government is powerful, decisionmaking is still decentralized, and may interest groups compete for power. Consensus building tends to go through a tortuous process that takes a long time. The Liberal Democratic Party, which holds the Prime Ministership, however, appears to be asserting itself more than in the past. This could overcome some of the entrenched inertia of the bureaucracy.

# MARKET ACCESS IN JAPAN: THE U.S. EXPERIENCE

By Raymond J. Ahearn*

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## SUMMARY

Since Japan began running large trade surpluses in the 1970s, a widespread impression has developed in the United States that it is more difficult for American firms to sell in Japan's market than for Japanese firms to sell in the United States. Though Japan has opened some of its markets to foreign exports and investments, the market-access issue remains a principal source of U.S.-Japan tension. Japan's trade restrictions are also a source of considerable tension between Japan and its other major trading partners.

A major cause of Japan's trade surpluses is that total spending in Japan tends to fall short of the value of its total output. Because Japan runs a deficit in services and is resource-poor, its trade surplus is concentrated in manufactured goods.

Japan's protection of its home market holds specific U.S. exports down and also is an important cause of its trade surplus with the rest of the world. Japan's trade restrictions, moreover, remain a major source of tension because they impose heavy costs on specific U.S. industries and fuel a widespread impression that Japan is not trading according to the rules that most industrialized market economies adhere to.

Further liberalization by Japan could lead to increased sales in areas, particularly agriculture and high technology, where the United States is internationally competitive. Liberalization of many Japanese barriers, however, would tend to benefit other countries as well, and not U.S. exporters alone.

The importance of further liberalization of Japan's market transcends foregone sales in the short term. Greater success in doing business in Japan would enlarge the political constituency in the

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*The author would like to thank Philip Agress, Abbey Alpren, Joseph Greenwald, Gary Horlick, Dick Nanto, Alfred Reifman, Joanna Shelton, and Philip Trezise for their comments.

United States that has a vested interest in maintaining a harmonious and mutually advantageous relationship with Japan. Equally important, a significant market presence in Japan can keep U.S. firms abreast of Japan's international export strategies and deny Japanese companies a free run on its own large and dynamic home market.

Beyond the impact of Japan's trade restrictions on specific firms and industries is the fact that Japan imports a relatively low percentage of manufactured goods compared to other industrialized countries. This means that Japan does not engage heavily in trading a range of similar but often highly differentiated products (such as exporting sports cars and importing vans). Despite economic logic arguing that Japan has to have a large surplus in manufactured goods, it is fair to question whether trade barriers add to the magnitude of that surplus.

Japan's market is not closed to foreign products, but it remains difficult to penetrate. Up to $10 billion in additional U.S. exports could result from removal of Japan's trade barriers. Four categories of barriers—formal, regulatory, strategic, and business and cultural—make it difficult either to get a foot in Japan's market or to increase market share.

Japan's once formidable array of formal barriers (tariffs, quotas, and investment restrictions) have for the most part been dismantled. Residual tariffs and quotas remain as much a political as a commercial problem, for they symbolize Japan as a closed market for some products in which the United States has a clear comparative advantage. Although the current formal respective frameworks for investment are substantially similar in the two countries, different business climates provide Japanese companies with substantial advantages in being able to acquire U.S. firms for their technology, manufacturing facilities, and distribution outlets.

Japan's regulatory barries (product standards, government procurement policies, and customs procedures) often blocked imports completely or obstructed their entry through costly delays in the past. Many regulatory barriers embedded in laws and long-standing policies have been eliminated or reduced. But problems (often associated with weak implementation efforts by mid-level bureaucrats) remain, and the promise of greater market access has yet to be completely fulfilled.

Strategic barriers embedded in Japan's industrial policies of the 1960s and 1970s were designed to channel resources to targeted growth industries and to manage the adjustment problems of declining industries. Infant industries such as autos, computers, and semiconductors were nurtured by a common strategy that restricted imports or prohibited the establishment of foreign-owned manufacturing facilities.

The evidence suggests that current trade opportunities in Japan have been diminished by former investment restrictions. Although strategic barriers are no longer officially pursued, recent Japanese actions that may protect their high-technology and declining industries have aroused considerable concern on the part of U.S. industry and government.

A variety of Japanese non-governmental business and cultural barriers exacerbate existing formal, regulatory and strategic barriers. The most prominent of these obstacles are the distribution system, interdependent supplier-buyer relationships, and pervasive buy-national attitudes. These private sector obstacles can make it extremely difficult and sometimes impossible for certain U.S. firms to do business in Japan.

Changes in traditional ways of doing business and in attitudes that view exporting and not importing as national priorities may well be a key to greater foreign access to Japanese markets. An irony is that very admirable qualities that have helped make Japan an economic superpower—loyalty to long-term personal relations, a sense of team play, lifetime employment, tightly knit business groups and a close government-business partnership—may be undesirable qualities in the context of an interdependent world economy if those qualities further the view in Japan that buying foreign products is not to Japan's advantage.

The U.S. and Japan face an array of options to improve the access to Japanese markets. The current imbalance in broad economic policies is a severe hurdle to improving market access in Japan. The potential impact of most marketing-opening measures is much less significant than the boost a weaker dollar, stronger yen, and faster economic growth in Japan would provide to Japan's imports of foreign goods. The current high value of the dollar imposes, in effect, a tax of as much as 20 percent on U.S. exports and is a major part of the overall trade problem. Japanese actions to achieve faster economic growth and a stronger yen would also make a difference by stimulating imports and inhibiting exports. In addition, Japan could direct government expenditures away from its goods-producing export sector in an effort to expand demand for imports.

More specific initiatives could be considered in each country. The U.S. Executive Branch and Congress could consider more comprehensive market access objectives such as encouraging Japan to set specific goals for buying more foreign goods. Lack of a clear and consistent set of U.S. policy goals makes it easier for Japan to treat market-access liberalization as a secondary issue or to play one U.S. interest group off against the other.

Because changes in traditional ways of doing business and in attitudes that view exporting and not importing as a national priority may well be a key to greater market access, the Japanese government may have to engage in an extraordinary amount of salesmanship and cajoling to accelerate the pace of liberalization. U.S. businessmen must take advantage of more open Japanese markets by offering high-quality and appropriate products.

It is likely that market-access problems will persist, but that any resulting tensions will not be severe enough to undermine the overall U.S.-relationship. A real dilemma, however, would occur if a continuation of past and current trends in resolving market-access problems were to set the United States on a collision with Japan through a protectionist backlash directed at Japan's exports. Responsibility for preserving a close and mutually advantageous friendship between the world's largest economies lies with the governments and firms in both countries.

## I. TRADE IMBALANCES AND MARKET ACCESS

Over the past decade, Japan has become an industrial superpower, successfully exporting a broad range of manufactured products to the rest of the world. Japan's success, as measured by large and growing trade surpluses with the rest of the world and with the United States in particular, has precipitated charges of "unfair" competition. One of the most contentious charges asserts that Japan's trade surpluses are facilitated by the maintenance of a closed or highly protected domestic market.

Japan's trade surpluses for the most part occur because Japanese national savings under normal conditions exceed national investment requirements. That is to say that—except in special situations such as an oil crisis—total spending in Japan by consumers, firms, and the government falls short of the value of total production. The difference between domestic total spending and the value of total output (which can be viewed as Japan's excess savings that it lends the world) shows up as a surplus in Japan's trade in goods and services. Because Japan is a net importer of services and is resource-poor, it must run large trade surpluses in manufactured goods.

U.S. global deficits, on the other hand, are driven by a low rate of private savings, a huge federal deficit (negative savings), and a surplus in services trade with the rest of the world. These basic economic factors, combined with the enormous size of the United States and Japanese economies and bilateral trade flows, helps explain why the U.S.-Japan trade deficit is so large.[1]

Japan's protection of its home market, therefore, is not the major source of Japan's trade surplus with the rest of the world or with the United States. Trade restrictions affect the composition of Japan's trade but not its balance of exports minus imports.[2]

There is considerable controversy over how protectionist Japan is. Since the mid-1960s, Japan has undertaken numerous actions to open its once highly protected market to foreign trade and investment. (Whether these actions have been effective or not is still an open question.) At the same time Japan has been reducing and eliminating barriers, other countries, including the United States, have been increasing barriers to Japan's exports of steel, autos, and consumer electronics. The consequence of these actions on both sides, however, has not been a declining bilateral trade imbalance. Instead, the imbalance has been accelerating at a rapid rate. From 1975–1977 the bilateral imbalance averaged $5 billion, from 1978–1980, $10 billion, from 1981–1983, $17 billion, and during 1984 it topped $36 billion. The U.S. Department of Commerce predicts that the deficit will escalate to $87 billion by 1990.[3]

As noted earlier, Japan's export surplus is necessarily in manufactured goods. A resource-poor country must export manufactured goods to pay for its imported oil and primary products. Even if Japan's overall trade balance were zero, it would still run a very large surplus in manufactured goods. Currently, the increase in bilateral deficits has been exacerbated in a major way by the appreciation of the dollar and faster economic growth in the United States relative to Japan.

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[1] Economic Report of the President. February 1984. p. 65.

[2] Trade liberalization, however, could affect the magnitude of Japan's trade surpluses if the effect were to lower prices, increase consumption, and decrease personal savings.

[3] U.S. Department of Commerce. International Trade Administration. The Nature and Prospects of U.S. Trade With Japan. July 1982. p. 23.

Japan's trade restrictions, however, remain a major source of tension for two reasons.[4] First, they impost heavy costs on specific U.S. industries and firms. Second, they fuel a widespread impression that Japan is not playing according to the same rules that most other industrialized market economies adhere to.

Two U.S. sectors that are highly competitive internationally—agriculture and high technology—are most affected by Japan's trade restrictions. Although Japan is the largest customer for U.S. agricultural sales, high tariffs and quotas still limit additional sales. Less formal restrictions operate to inhibit U.S. sales of high-technology products.

The United States has a large but shrinking surplus in high-technology products with the rest of the world, but a rapidly growing and significant (approximately $14 billion in 1984) deficit with Japan. U.S. products such as communications equipment, pharmaceuticals, scientific instruments, and computers—goods that the U.S. excels in selling worldwide—have a difficult time penetrating Japan's market. For example, even though the United States is a world leader in telecommunications equipment, American suppliers are selling $100 million of equipment in Japan while Japanese producers are selling over $1.5 billion of equipment in the United States. And despite U.S. strength as a producer of semiconductors, Japan's market remains dominated by Japanese companies.

Liberalization by Japan in these areas where the United States has a comparative advantage would not have a large impact on the bilateral trade imbalance. Estimates range from a few billion to ten billion dollars.[5] Efficiency gains by Japan in removing trade barriers and exchange rate effects also would tend to cause the trade imbalance to revert back to its previous magnitude.

There are, however, compelling political and economic reasons for Japan to undertake further liberalization measures. If Japan's trade restrictions were eliminated, a major irritant in U.S.-Japan relations would disappear. Increased sales to Japan by U.S. producers that are internationally competitive would enlarge the political constituency in the United States that has a vested interest in maintaining a harmonious, stable, and mutually advantageous trade relationship with Japan.

In economic terms, both the U.S. and Japanese economies would probably become more efficient overall. In addition, for U.S. firms to remain competitive with Japanese firms that produce high-value and sophisticated goods, they would do well to compete with Japanese firms for market share in Japan's home market. Doing business in Japan alerts foreign firms to changes in Japanese government policies, the introduction of new technologies, and shifts in consumer tastes. More importantly, it keeps U.S. companies abreast of Japan's international export strategies and deprives Japanese firms of a protected market where they can become internationally competitive.[6]

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[4] This is true not only for U.S.-Japan trade relations, but also for Japan's relations with the European Community and major developing countries.

[5] See Saxonhouse, Gary R. The Micro and Macroeconomics of Foreign Sales in Japan. In Cline, William R. Trade Policy in the 1980s. Institute of International Economics. Washington, 1984; and Olmer, Lionel H. Testimony Before the Senate Foreign Relations Committee. October 3, 1984.

The second major reason why trade restrictions remain a major source of tension is that Japan's relatively low absorption of foreign goods creates the impression that Japan is not playing by accepted international trade rules. The issue here is that most advanced industrialized countries engage heavily in what is called intra-industry trade. That is to say, trade among industrialized countries tends to be concerntrated in a range of similar but often highly differentiated products. Differences in taste and quality account for why German cars and Irish sweaters are popular in the United States, and American jeans and trucks are popular in Europe. Despite the economic logic which argues that it is reasonable for Japan to have a large export surplus in manufactured goods, it is fair to question whether Japanese manufacturers can produce products across the board that are superior in price, quality, and taste to all U.S. goods. The fact that Japan is unique among industrialized countries for importing a low percentage of manufactured products gives rise to the impression that Japan's companies and consumers are operating according to different rules. In recent years, Japan's share of manufactured imports as a percentage of total imports has averaged between 21 and 24 percent, the lowest among all industrialized countries. The U.S. share in 1983 was 66 percent, and most European economies average between 50 and 70 percent.[7]

The standard Japanese government explanation for low imports of manufactured goods is that it is due to their comparative advantage and the lack of effort by foreigners to sell in Japan's market. As a resource-poor country, it is clear, as explained above, that Japan will run large trade surpluses in manufactures. Yet other industrialized countries that are somewhat similarly situated, such as Switzerland, and the United Kingdom to a lesser extent, import a much higher percentage of such goods. In 1982, for example, manufactured goods accounted for 75 percent of Switzerland's total imports and 67 percent of the United Kingdom's.[8]

The "foreigners are not trying hard enough" argument also is not universally valid. It is true that many foreign firms have not made the necessary commitments and investments to succeed in Japan's market. Many foreign firms, however, have tried very hard and eventually failed. Moreover, firms in the most dynamic, hardworking, and competitive developing countries, such as Hong Kong, Taiwan, and Korea, have also found it extremely difficult to sell manufactures to Japan. Japan purchases only 8 percent of the total exports of manufactures from developing countries. The United

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[6] Lehmann, Jean-Pierre. Agenda for Action in European-Japanese Relations. September 1984, Vol. 7, No. 3. p. 267.

[7] Japanese government "external economic measures." The U.S. Government's Assessment of Their Implementation and Impact. October 1984, p. 2. (Hereafter cited as the U.S. Government's Assessment); and United Nations 1982 Yearbook of International Trade Statistics. New York, 1984.

[8] United Nations. 1982 Yearbook of International Trade Statistics. New York, 1984.

States, in stark contrast, purchases 58 percent and the European Community 28 percent.[9]

How restrictive is Japan's market to foreign goods? Is the door to the Japanese market open, closed, or only slightly ajar for a broad range of imported products? A review of the nature and extent of barriers to market access in Japan can help answer that question.

## II. TRADE BARRIERS IN JAPAN

Recent reports by the U.S. Government,[10] the Japan-U.S. Businessmen's Conference,[11] the United States Japan Advisory Commission,[12] the U.S.-Japan Trade Study Group,[13] and the Japan-United States Economic Relations Group,[14] examine the issue of Japan's trade barriers. All reach similar conclusions. The U.S. Government study found market-access conditions on the whole improved, but that significant trade barriers remain in a number of sectors. The Japan-U.S. Businessmen's Conference concluded that the market-access "gap" between the United States and Japan has narrowed in recent years, but that there remain areas where the "gap" is broader than most Japanese are willing to admit. The U.S.-Japan Advisory Commission notes that Japan has taken many measures to open its market for the last two decades, but that a variety of barriers reflecting broader problems remain. The Trade Study Group Progress Report notes Japan's substantial efforts and progress in removing trade barriers, but it maintains that Japan's market-opening efforts have failed to resolve many important problems. The report of the Japan-United States Economic Relations Group concludes that Japan has made substantial progress in removing an array of formal barriers, but that numerous "informal barriers make it especially difficult for foreigners to fully penetrate Japanese business and society."

The theme that Japan has made considerable progress in liberalizing its trade barriers, but that significant obstacles remain, emerges from most all studies on market-access conditions in Japan. For policy purposes, understanding the nature and consequences of the remaining barriers appears critical to reaching agreement on what approaches can be considered to deal with the remaining problems.

Four broad categories of barriers constrain or impede to varying degrees market access in Japan. The first category deals with formal barriers (tariffs, quotas, and foreign investment controls) established by the Japanese government to limit foreign imports and investments. Over the past two decades, formal barriers have been extensively liberalized or eliminated. With few exceptions, notably specific agricultural products and investments, formal barriers are today the least restrictive category of market-access impediments.

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[9] Data used by U.S. Trade Ambassador William E. Brock, and cited by Stuart Auerbach. U.S.-Japan Trade Strains Persist. Washington Post, January 6, 1985. p. K1.

[10] The U.S. Government's Assessment.

[11] Japan-U.S. Businessmen's Conference Joint Task Force Report. Available through Advisory Council on U.S.-Japan Economic Relations. Chamber of Commerce of the United States. Washington, July 1983. 109 p. [Hereafter cited as Japan-U.S. Businessmen's Conference Report.]

[12] Challenges and opportunities in United States-Japan relations. A report submitted to the President of the United States and the Prime Minister of Japan by the U.S.-Japan Advisory Commission. September 1984. p. 109. [Hereafter cited as U.S.-Japan Advisory Commission report.]

[13] U.S.-Japan Trade Study Group Progress Report: 1984. September 1984. 75 p. [Hereafter cited as TSG progress report.]

[14] Report of the Japan-United States Economic Relations Group. Prepared for the President of the United States and the Prime Minister of Japan. January 1981. 107 p. [Hereafter cited as Japan-U.S. Economic Relations Group Report.]

A second category of regulatory barriers covers a range of practices, regulations, policies, or laws that block or obstruct trade over a broad front. Although not necessarily designed or intended to deter trade, regulatory barriers nonetheless can make selling in Japan more difficult or impossible. The most significant regulatory barriers are embedded in decisions and policies affecting product standards, government procurement, and customs approval. In terms of their restrictive impact, regulatory barriers appear to be more onerous than formal barriers.

Falling under the third category of strategic barriers are Japan's industrial policy and administrative guidance practices. These barriers illustrate a pattern of government-industry collaboration designed to nurture infant industries and rationalize structurally depressed industries. Strategic barriers have in the past prevented American firms from gaining a foothold in key Japanese industries or prevented some American firms from exploiting their comparative advantage. Strategic barriers remain an important concern to U.S. exporters, particularly those involved in high-technology industries.

The final category relates to a mix of business and cultural barriers that makes the Japanese market an exceptionally difficult one to penetrate. Aspects of the distribution system, business structure, and buy-national attitudes of many Japanese companies act as perhaps the most formidable import barriers. In instances where Japanese business and cultural barriers do not block access to the Japanese market per se, they often limit imports to a narrow segment of the market and in the process limit market share. A closer examination of each trade barrier category follows.

### A. FORMAL BARRIERS

A protectionist wall constructed of high tariffs, restrictive quotas, and controls on foreign investment helped Japan recover from the economic devastation of World War II.[15] Beginning in the 1960s and continuing today, the wall has been drastically scaled back to provide protection for only a few key industries and products. Progress in dismantling the wall occurred as a result of both unilateral actions and Japan's undertaking international obligations upon joining the General Agreement on Tariffs and Trade (GATT), the International Monetary Fund (IMF), and the Organisation for Economic Cooperation and Development (OECD).

Tariffs in general are no longer a significant barrier to trade. Once the tariff cuts agreed to in the 1979 Tokyo Round of multilateral trade negotiations (MTN) are fully implemented in 1987, Japan's average tariff will be around 3 percent—the lowest in the industrialized world. However, Japanese tariffs for certain manufactured and agricultural products remain in excess of 20 percent, effectively constraining many exports of interest to the United States. Among the products still affected by high rates are forest products, leather, chocolate, fish, fabricated aluminum, and whiskey. Japan claims that the remaining tariffs for the most part protect two politically sensitive industries—agriculture and leather—but some view large trading companies and domestic manufacturers as important beneficiaries.[16] Regardless of who in Japan benefits and supports retention of the remaining high tariffs, U.S. negotiators likely will continue to submit specific tariff-reduction requests.

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[15] Imports were also tightly controlled through foreign-exchange regulations and import licenses.

As in the case of tariffs, formal quotas are not longer a significant market-access barrier for a large amount of trade. The once vast array of controls rigorously limiting the volume of imports has been dismantled, but the remaining quotas continue to limit the value of imports on a number of products of interest to U.S. exporters. In addition to quotas themselves, numerous problems in their administration—such as arbitrary changes in quota size, unused quota allocations, and inadequate announcement of quota levels continue to be a source of contention.[17]

In 1962, Japan's quotas on over 490 product categories provided virtually complete protection to domestic industry. Import quotas today cover just over 20 categories of mostly food products (coal briquettes and leather footwear are the exceptions). Most of the items still under quotas have limited trade value to U.S. exporters, with the exception of beef, citrus, and leather products. Recent negotiations to expand the size of the beef and citrus quotas are expected to result in approximately $400 million in U.S. exports over the next four years.[18] High tariffs on leather effectively make the quota redundant. The U.S. Government has long argued that most of the remaining quotas are inconsistent with GATT rules and has threatened GATT action for a number of years. In a sense, the residual quotas remain as much a political as a commercial problem, for they symbolize Japan as a closed market for some products in which the United States has a clear comparative advantage.

Beginning in 1967, Japan initiated a series of liberalization programs affecting direct equity investments by foreigners. The most recent measure, enacted under the 1980 Foreign Exchange and Foreign Trade Control Law, eliminates most controls except in emergencies and special situations. Japan, however, requires a 15-day pre-notification and retains the power to block investments based on national security or domestic economic grounds.[19]

Non-formal barriers still exist due to different regulatory and business practices. The U.S.-Japan Trade Study Group criticizes tighter government regulations in Japan, often developed in consultation with competing Japanese companies in the potential foreign investor's industry, that attempt to maintain orderly markets or prevent excessive competition through informal administrative guidance.[20] Additional concern centers on the difficulty of acquiring Japanese firms by U.S. firms. Subtle business and labor relationships pose enormous obstacles to foreign takeovers in Japan. (The same factors make domestic takeovers rare and unpopular.) The result is that Japanese companies enjoy substantial advantages in being free to acquire U.S. firms for their technology, manufacturing facilities, and distribution outlets. Similar opportunities are rare for U.S. firms, although some U.S. firms have broken into the Japanese market through joint ventures.

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[16] Werner, Roy A. Is Japan an Open Market? Asian Affairs, vol. 9, January/February, 1982. p. 151.

[17] TSG Progress Report. p. 25-26.

[18] The U.S. Government's Assessment. p. 14.

[19] Japan still restricts investments in the agriculture, forestry, fisheries, mining, oil, and leather industries. In addition, as in the United States, Japan places restrictions on national defense-related industries such as broadcasting and transportation.

### B. REGULATORY BARRIERS

As Japan's formal barriers came down in the 1960s and 1970s, complaints multiplied concerning barriers embedded in policies regarding product standards, customs clearance, and government procurement. The general allegation was that a closed system of standards and compliance, difficult testing and product-approval procedures, fastidious and often inconsistent customs clearance actions, and stringent "buy-Japan" policies of public corporations and agencies made it extremely difficult for U.S. manufacturers to compete in Japan. Although a good portion of the barriers resulted from policies intended to achieve legitimate domestic objectives, the effects often were to block imports completely or obstruct their entry through costly delays. Extensive delays in some cases increased the opportunities for Japanese producers to develop and market a competing product.[21]

During the 1980s two factors have combined to reduce and in some cases eliminate many long-standing regulatory barriers. Since the completion of the MTN in 1979, Japan has been undertaking various international obligations that will harmonize many of its regulatory practices with those of the United States and European Community. In addition, the bulk of Japan's five unilateral market-opening packages initiated since 1982 have been directed at easing regulatory barriers. Consequently, many of the regulatory barriers embedded in laws have been eliminated. But problems (often associated with implementation efforts by mid-level bureaucrats) remain, and the promise of greater market access has not yet been fulfilled. The U.S. Government concluded, in its latest assessment of Japan's liberalizing actions, that Japan has made much progress in changing its statutory framework for dealing with regulatory barriers, but that "full implementation of these commitments at the technical level has not been completed."[22]

Japan's product standards writing process is one example of this mixture of progress and unfulfilled promise. Unlike the United States and Europe, where foreign companies generally have the opportunity to participate in the drafting of product standards and technical regulations, Japanese ministries rely on industrial associations or ad hoc groups to develop the tests and standards that products must meet. Membership in such associations is in some cases closed to foreign companies in a de facto sense by requirements (e.g. specified levels of sales, local production, and research and development) that most foreign companies cannot meet. In most other cases, depending on the ministry, foreign membership is excluded. Lack of input into writing standards or discovering well after their Japanese competitors that old standards have been rewritten can place foreign companies at a serious disadvantage. Although Japan made a commitment in May 1982 to permit foreign input in standards-drafting committees, the commitment has remained unfulfilled.[23] U.S. criticism has been voiced recently over Japan's decision to have telecommunications equipment tested by an association composed of Japanese companies, Nippon Telegraph and Telephone (NTT), the Communications Industry Association of Japan (CIAJ), and Kosusai Denshin Denwa (KDD), with no foreign members on the board of directors.[24]

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[20] TSG Progress Report. p. 73.

[21] Japan Economic Institute of America, Inc. Japan's Import Barriers: An Analysis of Divergent Bilateral Views. Spring 1981. p. 13. [Hereinafter cited as JEI report.]

[22] The U.S. Government's Assessment. p. 20.

Standards set without foreign participation can more easily be designed to favor domestic producers. A recurring difficulty U.S. firms have experienced stems from the tendency of Japanese standards to be cast in terms of design criteria rather than performance specifications. U.S. products such as electrical cords, plywood, and pleasure boats, for example, were denied entry due to minor differences in design even though the differences did not affect the relevant safety or health requirements. But in the past year, several Japanese standards containing objectionable design restrictions were replaced by performance tests. In addition, the Trade Study Group Report notes that under the Product Standards Code, "it does not appear that Japanese regulations have been prepared, adopted, or applied in ways that create barriers to trade or treat foreign goods less favorably than domestic goods."[25]

Although there is great variation by industry and product, a major source of contention in the standards area has been the general requirement that product approval tests be performed in Japan.[26] As a result, many imports were required to replicate tests in Japan or were subject to costly customs inspection delays to determine whether they conformed to Japanese specifications. Unlike Japanese products that were certified at the factory, foreign goods generally were subject to lot inspections at the port of entry before the marks of approval could be affixed.

In May 1983 Japan amended 16 laws in an effort to allow foreign producers to have direct access to the product approval process. The changes permitted foreign suppliers to apply for and hold certifications for their products and to affix marks of approval at the factory. But the revisions stipulated that quasi-governmental bodies called "designated entities" conduct the factory inspections. Because American suppliers were wary of a potential loss of confidential business information, the U.S. Government requested that Japanese ministries designate U.S. testing firms to conduct inspections and tests in the United States according to Japanese standards. To date, three Japanese ministries have approved U.S. testing firms.[27] But Japanese agencies remain unwilling to delegate the initial factory inspection for JIS (Japanese Industrial Standards) and JAS (Japanese Agricultural Standards) marks to foreign inspection agencies. The JIS and JAS marks, though voluntary, are widely recognized symbols of quality and reliability to Japanese buyers.[28] Problems also remain in fulfilling Japan's commitment to accept test data developed outside of Japan as a means of facilitating product approval. In the case of medical devices, preclinical studies must still be conducted in Japan to satisfy the Ministry of Health and Welfare.[29] And some Japanese ministries are asking the U.S. testing firms enter into contracts with Japanese quasi-governmental agencies as an arrangement for accepting foreign test data.

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[23] Ibid., p. 22.

[24] Chira, Susan. U.S. Industry Wary on Japanese Bill. New York Times, November 6, 1984. p 25.

[25] TSG Progress Report. p. 19.

[26] Weil, Frank A., and Norman D. Glick. Japan—Is The Market Open? A View of the Japanese Market Drawn from Corporate Experience. Law and Policy in International Business, vol. 11, no. 3, 1979. p. 871.

In terms of customs procedures, rigid interpretation and enforcement by customs officials has been a longstanding irritant to foreign traders. Goods have been denied entry or subjected to delays for trivial documentation errors, classified improperly under categories that have higher tariff rates, and valued at inflated prices. Japan's implementation of the MTN Customs Valuation Code has curtailed valuation and classification complaints, but the wide discretion and authority possessed by administrative-level officials continues to be an irritant.[30] An additional concern is that the Customs and Tariff Bureau continues to hold goods on the dock until they have been cleared by other Japanese agencies, a process that can result in costly delays.[31]

De facto "buy-Japan" procurement policies of Japan's public corporations have also been major impediments to selling manufactured products in Japan. The fact that approximately 115 Japanese public corporations and agencies purchase a small but significant share of all manufactured goods consumed in Japan without providing much opportunity for foreign firms to win a share of the business has been a continuing source of complaint. In this connection, Japan's implementation of the MTN Government Procurement Code has been criticized. The Trade Study Group report maintains that many Japanese agencies use the minimum notification period specified in the Code as a maximum period and that "many competent foreign suppliers are eliminated by the practice of assigning grades to suppliers on the basis of financial strength."[32] The U.S. Government assessment found "no evidence of action to open the government procurement market in Japan to foreign products through increased use of competitive bidding."[33]

In the past, the procurement policies of two entities, the Japan Salt and Tobacco Public Corporation (JTC) and the Nippon Telegraph and Telephone Corporation (NTT), have received the most criticism. The criticism has been intense, and alleges that restrictive policies of those entities have denied sales opportunities in areas where U.S. producers have a clear competitive advantage.

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[27] The U.S. Government's Assessment. p. 21.
[28] TSG Progress Report. p. 21.
[29] Ibid., p. 35.
[30] Ibid., p. 23.
[31] The U.S. Government's Assessment. p. 24.
[32] TSG Progress Report. p. 27.
[33] The U.S. Government's Assessment. p. 33.

The monopoly power of the JTC allowed it to control domestic production, imports, distribution, and prices of manufactured tobacco products. Through a combination of high tariffs, limits on foreign access to distribution outlets, and restrictions on foreign investment and advertising, the JTC succeeded in keeping the U.S. share of the $10 billion tobacco products market to less than 2 percent.[34] Discrimination against imported tobacco products has been reduced. Through bilateral negotiations, the U.S. Government persuaded Japan to make substantial tariff cuts on cigarettes, cigars and pipe tobacco. In addition, Japan increased the number of retail outlets for foreign tobacco products from 20,000 to 70,000 in 1983. By April 1985, all 260,000 licensed tobacco retailers will be allowed to sell imports. More significantly, legislation enacted by the Japanese Diet in August 1984 to reform the JTS could provide a signficant boost to foreign sales. Once implemented, foreign firms could have much greater latitude in importing, distributing and selling tobacco products in Japan, and could also have greater latitude in setting their prices. (The pricing formula, which is to take into account taxes and tariffs, and be subject to Finance Ministry approval, will be critical to reducing the large gap between foreign and domestic products and thereby making imports relatively less expensive.) The U.S. industry estimates that if the reforms are properly implemented to provide an independent distribution system and fair price competition, it could increase its sales by almost $2 billion—from 2 percent of the market to 20 percent.[35] Implementation of the reforms will be monitored closely by the U.S. Government and tobacco industry. The procurement policies of NTT, Japan's telecommunications monopoly, have been a source of protracted dispute between the United States and Japan. NTT procurement was the outstanding issue in the closing days of the MTN in 1979. Less than 1 percent of NTT tenders traditionally were awarded to foreign suppliers; the vast majority (approximately 96 percent of NTT procurement) went to four family suppliers—Nippon Electric, Oki, Fujitsu and Hitachi.[36] After prolonged and difficult negotiations, a three-year agreement to liberalize NTT's procurement policies was reached at the end of 1980. During the first three years of the agreement, U.S. sales increased from a negligible level to $140 million in 1983 or 4.5 percent of total NTT procurement.[37] Although Japan fully implemented the technical and procedural requirements of the agreement, the U.S. Government voiced concern that "little of what NTT has purchased from American firms has been highly technology equipment of the type that is central to the telecommunications network and likely to promote the development of long-term relationships with American suppliers."[38] Despite some disappointment, a second three-year agreement was signed on January 30, 1984. Numerous improvements, including a commitment to provide U.S. suppliers the same opportunities as Japanese firms for involvement in the kind of research-and-development programs that can lead to big-ticket, state-of-the-art sales, were negotiated in the renewed agreement. The United States hopes that proper implementation will lead to significant increases in sales of sophisticated core equipment.

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[34] Ibid., p. 34.

[35] The U.S. Government's Assessment. p. 28.

[36] U.S. Library of Congress. Congressional Research Service. The Nippon Telegraph and Telephone Negotiations: Controversy Over Japan's Purchase of Telecommunications Equipment. By Dick K. Nanto. October 8, 1980. p. 3.

[37] The U.S. Government's Assessment. p. 33.

[38] Ibid., p. 31.

In December 1984, the Japanese Diet passed legislation to gradually change NTT from a government-owned to a semi-private company. U.S. telecommunications manufacturers are concerned that the benefits of the NTT agreement not be undermined by changes in the legal status of NTT.[39]

### C. STRATEGIC BARRIERS

Much has been written about the sources of Japan's postwar economic success. An educated and hard-working labor force, high quality management, aggressive entrepreneurs, and high personal savings were some important components of high economic growth rates. Less important, but still significant, were various forms of national industrial policies designed to direct resources toward certain sectors in order to achieve national objectives. An assortment of policy tools—formal trade and investment barriers, buy-Japan policies, legalized cartels, licensing agreements, financial support for research and development, and administrative guidance—were extensively utilized in the 1950s and 1960s. These policies helped shape the content and strength of Japan's industrial structure.

In view of the U.S. aide of a Japan-U.S. Businessmen's Conference joint study, government support for targeted industries was intended "to establish a strong domestic market base and limit foreign competition, focus research and development on state of the art or next generation technologies, allow collaborative action by several companies within the industry, and provide financial support." [40] Infant industries such as autos, computers and semiconductors were nurtured by a common strategy that restricted imports or prohibited the establishment of foreign-owned manufacturing subsidiaries. Effectively blocked from exporting to or investing in Japan's market, a foreign company's sole recourse was to enter into Japanese controlled joint ventures or license their technologies to Japanese-owned companies.[41] From the American perspective, Japan began to liberalize its restrictions on an industry-by-industry basis only when its infant industries had grown strong enough to resist foreign competition at home and export successfully abroad.[42]

Industries such as autos, semiconductors and computers today essentially are open to U.S. exporters and investors. But the effects of past protectionism still persist and are dramatically reflected in the U.S.-Japan trade imbalance on manufactures. Part of the reason is that "investment opportunities denied in the 1950s, 1960s, and 1970s have become trade opportunities denied in the 1980s.[43]

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[39] Advisory Council on Japan-U.S. Economic Relations. High Technology Position Paper. November 1984. p. 6.

[40] Japan-U.S. Businessmen's Conference Joint Study. Understanding the Industrial Policies and Practices of Japan and the United States: A Business Perspective. July 1984. p. 22

[41] TSG Progress Report. p. 53.

[42] A closed domestic market combined with open foreign markets enabled Japanese firms to generate benefits of large-scale production and move down the learning curve fast enough to become internationally competitive.

The importance of the time factor is well illustrated in the case of semiconductors and autos. Texas Instruments (TI) first applied to produce semiconductors in Japan in 1964. The Ministry of International Trade and Industry (MITI) delayed giving permission for four years and then only on the condition that it establish a 50/50 manufacturing joint venture with SONY and license its basic integrated circuit technology to Japanese companies. Restrictions on foreign investment in Japan's semiconductor industry were not fully lifted until 1971. The consequences of those seven years of delay, as viewed by the Trade Study Group Report, were significant reductions in TI's market share over what it would have been and an increased market share for Japanese-owned competitors.[44]

The dynamics of the automotive sector are broadly similar. Until 1965, passenger car imports were restricted by high tariffs and foreign-exchange controls. Tariffs remained high and foreign investment restrictions remained stringent until 1971. At the same time, higher commodity taxes for larger cars, standards requirements, and a complex and expensive distribution system increased the cost of selling a foreign car in Japan. These barriers have contributed to the poor sales performance of foreign autos in Japan. In 1984, the foreign market share was less than 1 percent, with German cars accounting for the majority of the sales.[45]

In Japan, the lack of success of foreign automakers is often attributed to a sub-standard and inappropriate product (for example, large U.S. gas guzzlers with left-handed drive being marketed in a right-hand drive, resource-poor country, that is laced with crowded, narrow streets) and lack of effort.

The argument has considerable merit, but even if continuing liberalization measures allow foreign imports to become more price competitive and accessible, the foreign market share is likely to remain small in the future. The bulk of original demand for cars has been met by Japanese producers and product loyalty is firmly established. One analyst believes that had the market been opened up earlier when many Japanese were buying their first car, foreign automakers would have had greater success. But "now they only encounter a much reduced market, one that has virutally started to shrink, and terrific competition from Japanese makers who already have a foot in the door."[46] Japan's trade liberalization measures in the 1970s have had little impact on the auto trade imbalance. In 1973 the U.S. exported 11,419 cars to Japan, and Japan exported 624,805 cars to the United States. In 1983 the figures were 2,322, and 1,871,192, respectively. No one knows, of course, what the figures would be if foreign automakers had faced a different set of competitive circumstances in 1960s and 1970s.[47] As in the case of semiconductors, denial of foreign automakers' market entry at the early stages may have created a long-term competitive disadvantage.

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[43] TSG Progress Report. p. 53-54.

[44] Ibid.

[45] Japan Economic Journal. January 22, 1985. p. 10.

[46] Woronoff, Jon. Inside Japan, Inc. Lotus Press, Tokyo, 1982. p. 41.

[47] As in the case of many Japanese barriers, liberalization may help exporters from other countries as much and sometimes more than U.S. exporters.

As part of the overall liberalization process, the high degree of government intervention and influence over private sector activity has also been reduced compared to past periods. To many Americans, however, some of Japan's current or proposed policies affecting both future growth industries and declining industries have aroused considerable interest and even suspicion. In particular, recent policies affecting telecommunications, satellites, software and numerous depressed industries have caught the attention of U.S. business executives and trade officials.

Two bills (the Nippon Telegraph and Telephone Company Bill and the Telecommunications Enterprise Bill) passed by the Japanese Diet in December 1984 will alter Japan's telecommunications monopoly and upgrade telecommunications net work operations. The goals of the proposals are similar to those behind divestiture of the American Telephone and Telegraph Company (AT&T): better service, lower consumer costs, and increaed innovation. The fact that Japan's telecommunications equipment suppliers have increased their U.S. market share markedly since AT&T's divestiture has prompted intensified U.S. demands for equal market access in Japan.

Passage of the two laws raises a number of issues of concern to U.S. telecommunications suppliers. A major concern is that the change in the legal status of NTT will undermine the NTT procurement agreement. An additional concern is that the proceeds from the sale of NTT stock not be used to subsidize NTT operations against new competitors.

The concerns raised by the passage of the Telecommunications Enterprise Law are somewhat different. Under this law, telecommunications carriers will be classified as Class I carriers (offer basic communications services) and Class II carriers (value-added network of VAN carriers). U.S. concerns are as follows: (1) that NTT not be able to transfer funds into VAN operations and maintain its dominance over the telecommunciations market in Japan; (2) that registration and notification procedures for VANs are not constructed to discriminate against foreign suppliers; and (3) that product testing and approval procedures are not formulated to discriminate against foreign suppliers.[48]

Potential U.S. sales of satellites could also be affected by the telecommunications legislation. The new telecommunications law allows private Japanese companies to purchase and operate foreign-made communications satellites. The new restructured NTT will be allowed to purchase foreign-made satellites to the extent such purchases are consistent with Japan's 1983 Long Range Vision on Space Development. Japan's space policy aims at developing self-sufficiency in satellite production with a view toward becoming a significant exporter. The U.S. concern is that Japan's policy has the same elements of infant industry protection applied to targeted industries in the past.[49]

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[48] High Technology Position Paper. p. 8-9.

[49] The U.S. Government's Assessment. p. 34-35.

A recent proposal by Japan's Ministry of International Trade and Industry (MITI) to change the legal protection of software is also viewed by the United States with concern. The proposal would substitute patent-like concepts for copyright protection of software in Japan. Copyright laws are the standard protection provided in industrialized countries to computer software products. In addition, the proposal would reduce the protection to the creator of programs by compulsory licensing, limiting protection to 15 years, and establishing unncessary standards.[50] If implemented, foreign companies would be in jeopardy of losing a good portion of their competitive advantage as a condition for paticipating in the Japanese market.[51]

Another issue of contention involves Japan's policies for facilitating the adjustment of declining industries such as aluminum, fertilizer, textile fibers, and paper, by encouraging capacity reduction and other revitalization efforts. Japan's industrial restructuring law contains no provision for restricting imports, but allows collusion and the formation of cartels. Despite considerable price advantages, imports remain at levels well below what would seem warranted by economic factors. Imports, for example, in only two of eleven depressed industries achieved significant market penetration from 1978 to 1983.[52]

U.S. allegations of protectionism are difficult to prove, because of the lack of first-hand evidence. The allegations rest on the suspicion that Japanese industries agree to reduce capacity in return for administrative guidance by MITI to restrain imports. MITI officials, for example, might request or instruct Japanese users of aluminum or fertilizer to buy domestic supplies in lieu of imports. Such guidance is informal, is based on a close relationship between the public and private sectors, and is difficult to document.

### D. BUSINESS AND CULTURAL BARRIERS

Japan's formal, regulatory, and strategic barriers are for the most part determined by government policy. The extent to which these barriers, in turn, create market access problems are reinforced by an array of nongovernmental business and cultural barriers. The most important of these obstacles are the distribution system, interdependent supplier-buyer relationships, and buy-national attitudes. These private sector obstacles can make it extremely difficult and sometimes impossible to export to Japan. Even if an exporter gets a foot in Japan's market, some of the obstacles retard sales and market share growth. However, Japan's business and cultural barriers are changing. A key issue is whether and to what extent Japanese government action can accelerate changes in traditional practices and attitudes.

Over the years, Japan's complex and multi-layered distribution system has been a formidable obstacle for exporters trying to break into the Japanese market. This has been particularly true for exporters selling consumer products and intermediate capital goods—precisely the categories in which the United States runs a huge deficit with Japan. Unlike the United States, where there is a large group of independent distributors usually willing to sell any product that is in demand and offered on the right terms, in Japan, often more than the right product, the right price, and a good commission are required. Moreover, the proper relationship is often the most important.

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[50] High-Technology Position Paper. p. 12-13.

[51] the U.S. Government Assessment. p. 36-37.

[52] TSG Progress Report. p. 65.

In Japan a proper or traditional relationship is based on a close business-seller relationship. Sellers in Japan, both wholesalers and retailers, are closely tied to producers. Many manufacturers own stock in the operations of sellers and some sellers may own stock in production firms. In addition, many manufacturers extend credit to distributors. According to one analyst, "this results in many rather closed and frequently exclusive outlets as opposed to independent agents which can sell whatever they want." [53] The financial interdependence creates a situation where it may not be in the distributor's interest to carry product lines that compete with the Japanese producer(s) that it is dependent on.

In addition to financial linkages, there are human considerations. Many distributors serve as a "retirement home" for older employees no longer needed by manufacturers. Traditional Japanese values also place a premium on stable, long-term relationships sustained by the values of loyalty and obligations, which substitute in part for the detailed legal constraints favored by Americans. Such preferences place new entrants (including Japanese firms) as a disadvantage because developing relationships that are proper to the Japanese can take many years.

Selling to Japan by dealing with a Japanese trading company poses some quite similar problems. As in the case of most distributors, trading companies have financial ties to Japanese manufacturers that dilute their interest in selling products that may displace domestic production and jobs. In addition, trading companies work on narrow profit margins and thus are reluctant to market unproven imports or products that require extensive aftersale service.[54]

Most of Japan's big trading companies belong to one of sixteen business groups (known as Keiretsu) that dominate Japan's production and sales. Members of a group consisting of banks, manufacturers and trading companies have a vested interest in the success of each unit of the group. Many American businessmen believe that the group's self-interest dictates actions by individual members that limit foreign participation in Japan's market.[55]

In getting products into Japan, foreign exporters also run up against buy-national attitudes of government officials, importers distributors, and end-users. The criticism is that these Japanese groups tend to prefer domestic products even where foreign goods are cheaper, incorporate novel design features, or are of higher quality. An exception, according to the United States Trade Representative's report on trade barriers in Japan, is where imports incorporate technology unavailable to domestic manufacturers.[56]

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[53] Woronoff. op. cit. p. 160.

[54] JEI 1981 Report. op. cit. p. 18.

[55] Japan-U.S. Businessmen's Conference Report. p. 32-33.

[56] Office of the United States Trade Representative. Japanese Barriers to U.S. Trade and Recent Japanese Government Trade Initiatives. November 1982.

A related problem is the issue of reliability of supply. Living in a resource-poor island, many Japanese feel more secure in not relying on foreign supplies. Although the Japanese concern about reliable supply is understandable, the Trade Study Group concluded that "it sometimes appears to be used as an excuse for not buying imports or as a means of negotiating a better deal." [57]

Getting a product into Japan's distribution network is only half the battle. Once inside the distribution network, there is the question of how effectively it will be sold. The immediate problem is cost. Japan's distribution network has many layers with twice as many wholesalers and retailers per capita than the United States.[58] Due to multiple mark-ups as the product passes through the distribution network and the tendency to treat imports as luxury items, retail prices on imported consumer durables are often two to three times greater than comparable Japanese products. High retail prices, of course, limit sales and restrain imports from gaining mass appeal.

More subtle factors can also confine imports to a narrow segment of the market and limit their potential sales growth. Many foreign "luxury" imports are marketed in specialty stores or department stores (not in supermarkets or neighborhood grocery stores) and often are displayed in less desirable store locations.[59]

Given the difficulties of marketing in Japan, foreign companies have considered alternative strategies. The most direct and also most expensive strategy is to establish an independent distribution network. The expense is great because of the necessity to recruit a huge staff (which is not easy),[60] and the cost of land, warehouses, and vehicles can be exorbitant. In addition, close relations between existing distributors and suppliers make breaking into the market extremely time consuming and difficult. Nevertheless, some companies, such as Estee Lauder and Coca-Cola, have successfully gone this route.[61]

Another alternative is to enter into a marketing arrangement with a Japanese company. Many foreign companies have ended up working this way. A drawback is that the foreign company chosen may have access to only a limited portion of Japan's market as well. Then there is the problem that a partner may not actively market a product if it or any company in its group has competing products.

Despite the above problems, some of Japan's private-sector barriers are undergoing change. In recent years, discount chain stores, convenience stores such as 7-Eleven's and mail-order businesses have been appearing. All of these developments provide new outlets and more direct channels for foreign products. The government of Japan, however, has acted to limit the growth of such retailers. Because they were seen as a threat to the interdependent buyer-suppliers network, and the myriad mom-and-pop stores, Japan in

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[57] TSG Progress Report. p. 71.

[58] Office of the United States Trade Representative. p. 71.

[59] Woronoff, Jon. World Trade War. Lotis Press, Tokyo, 1983. p. 70.

[60] Foreign companies generally have difficulty in recruiting qualified personnel in Japan because working for foreign-based firms is considered less prestigious.

[61] Weil and Glick. op. cit. p. 895.

1982 enacted a "Large Store Control" law to limit the number and size of new stores.[62]

On the issue of buy-national attitudes, the Government of Japan has recognized that there is a problem. Prime Minister Suzuki in 1982 and Prime Minister Nakasone in 1983 appealed to the Japanese people to welcome foreign goods and investments. Concrete results have been slow to materialize. This should not be too surprising because attitudes and cultural traits tend to change slowly. Despite the progress that has been achieved in opening up Japan's economy to allow equal participation by foreign companies, Japanese culture and business noted by the U.S.-Japan Economic Relations Group Report, a sense of separateness reinforced by an island mentality and a unique and practices, for the most part, remain familial and exclusionary. As extremely complex language has contributed "to a general sense of Japanese society as closed and impenetrable." [63] It follows that selling "foreign goods" in a relatively closed society is more difficult than selling them in a relatively open society. The irony is that very admirable qualities that have helped make Japan an economic superpower—loyalty to long-term personal relations, a sense of team play, lifetime employment, tightly knit business groups and close government-business relationships—may well be undesirable qualities in an international context by fostering the view that buying foreign manufactures are not to Japan's advantage.[64] In an interdependent world economy, public support for open trade relationships depends importantly on a widely shared perception that trade is a two-way street.

## III. POLICY OPTIONS

The United States and Japan confront an array of options for better improving market access in Japan. In the past, the typical scenario has been as follows: The United States identifies a specific trade barrier and raises it with Japan. The Japanese respond that either the problem is minor or that not much can be done about it. Time passes without much action. Often Congress then will bring publicity and pressure to bear on the problem until it is escalated to the brink of a political breach. An agreement is often struck which the United States views as minimal and Japan views as being forced without due concern for its own problems. The crisis passes, but as the cycle is repeated, resentment accumulates in both countries.[65]

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[62] McKinsey and Company Inc. Japan: Business Obstacles and Opportunities. John Wiley & Sons, 1983. p. 29.

[63] Japan-U.S. Economic Relations Group Report. Numerous contradictions in such a broad generalization can be cited. For example, Japanese historically have been open to foreign ideas, technology, and fashions. Today millions of Japanese travel abroad every year. At the same time Japan has never opened its doors to foreign immigration and obtaining a foreign work visa remains a tedious undertaking.

[64] Woronoff. World Trade War. p. 82.

[65] This process appears to be repeating itself in the context of the current U.S.-Japan trade negotiations on forest products, telecommunications equipment, electronics, and medical equipment and pharmaceuticals. These negotiations grew out of the January 2, 1985, meeting between President Reagan and Prime Minister Nakasone. In initial discussions held in Tokyo, U.S. sources complained that Japan is taking a hard line despite Prime Minister Nakasone's pledge to provide equivalent market access. In the meantime, the congressional response is heating up. Senator Max Baucus warned that Congress may be willing to consider drastic solutions if Japan does not significantly reduce its unfair trade practices. Senator John Danforth, Chair-

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The danger with this process is that over the long term it undermines the fundamentally strong relationship between the two countries. The undermining becomes especially serious if Japan views itself as a scapegoat for problems of U.S. domestic industries and U.S. economic policy and many Americans view Japanese trade barriers as the cause of their economic problems.

Attempts to avoid a continuation of this process are severely handicapped by the current imbalance in broad economic policies pursued by each country. The potential impact of most market opening proposals is much less significant than the boost a weaker dollar, stronger yen, and increased consumption and investment in Japan would provide to Japan's imports of foreign products. The high value of the dollar, in effect, currently imposes a tax of 20 percent on U.S. exports to Japan and is a major part of the overall trade problem.

Japan could also undertake actions that would make a major difference by stimulating imports and inhibiting exports. Faster economic growth would do this. But even if Japan does not do this, it could after the mix of its fiscal and monetary policy, run bigger budget deficits and offset the impact of such deficits on domestic inflation by a tighter monetary policy. This would strengthen the yen. Even without increasing its budget deficit, Japan could redirect fiscal incentives from large export-oriented firms to individuals or the non-tradeable goods sector, thereby constraining Japan's natural bias toward exports of manufactures.

More specific initiatives could be considered by trade policymakers in each country. U.S. trade policymakers could consider formulating more comprehensive market access objectives.[66] Frustration with the slow and piecemeal nature of past market-opening negotiations has in fact influenced the Office of the U.S. Trade Representative and the Department of Commerce to suggest that the United States press Japan to set specific targets for buying more manufactured goods. The attractive feature of such a proposal is that it places responsibility for liberalization squarely in Japan's lap. Instead of the past process where the United States identified specific barriers, this approach assumes that Japan knows best what practices continue to provide the most resistance to imports. The drawback to this suggestion is that it connotes management of trade flows that is perhaps antithetical to the behavior of market economies. President Reagan did not pursue this suggestion in his January 2, 1985, meeting with Japanese Prime Minister Yasuhiro Nakasone, but this or other more comprehensive policy suggestions will likely resurface as the market access issue persists.

Developing a consensus in the United States on how best to deal with the market access problem is not easy. Not only have Executive Branch departments disagreed among themselves about over-

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man of the Senate Finance Subcommittee on International Trade, stated that the United States is being taken to the cleaners by Japan year after year and he offered a resolution linking the end of restrictions on Japanese autos to "substantial increases in sales of U.S. products in Japan." See International Trade Reporter. Congress may consider drastic solutions if Japan fails to drop barriers, Baucus says. January 23, 1985. p. 134-135 and Auerbach, Stuart. Japan trade resolution offered. Washington Post, February 2, 1985. p. D1.

[66] For a study that assesses U.S. policy approaches for dealing with Japan, see U.S. Library of Congress. Congressional Research Service. Dealing With Japan: Policy Approaches for A Troubled Alliance. Report No. 82-97 F, by Robert G. Sutter. Washington, 1982.

all U.S. policy objectives, but the Congress often pays much attention to particular industrial and sectoral problems. Without the Executive Branch and the Congress in agreement on a clear set of policy goals to deal with the market access problem, it becomes much easier for Japan to treat increased market access as a secondary issue or to play one U.S. interest group off against another.

Because Japan's most onerous barriers to manufactured imports are societal (buy-national attitudes, long-term seller-buyer relationships that discriminate against new entrants, and collusive formal and informal agreements of Japanese firms), Japanese government decisions at the top to liberalize laws or regulations that impede trade are unlikely to be sufficient. To convince Japanese mid-level bureaucrats and companies that it is just as much in Japan's national interest to import as to export, "an extraordinary amount of salesmanship and cajoling" may be necessary.[67]

The Government of Japan has two unused tools at its disposal to modify societal resistance to imports. Both tools—the modern mass media and administrative guidance—would have to be used with the full support of the Japanese business community. The mass media could be used to convince the Japanese people that imports are as much in their long-term interest as exports. The Japanese Advertising Council, for example, devised successful themes some years ago to stop Japanese imitation of foreign products. Displays of the original and the imitation were mounted in department stores in an appeal to the Japanese sense of shame. Similar themes and advertising strategies could be developed to promote imports.[68]

A second option would be for the Government of Japan through its power of administrative guidance to encourage major exporters to become major importers. Nissan's arrangement with Volkswagen to assemble the Santana in Japan and sell it through its own distribution network could be a model for other Japanese exporters to emulate. Active encouragement by the government would be necessary to overcome much of the traditional resistance of Japanese firms to upsetting longstanding relationships with indigenous firms.[69]

A substantial burden of selling in Japan ultimately falls on U.S. businessmen. They must take advantage of liberalization measures by offering high-quality products that are well-suited to the Japanese market, by reducing or eliminating the Japanese perception that many American goods suffer from poor quality, and by providing sufficient after-sales services.

It is likely that market access problems will persist, but that any resulting frustrations and diminished trust will not be severe enough to undermine the overall relationship. The real dilemma, however, would occur if a continuation of past and current trends in resolving market access problems puts the United States on a collision course with Japan in the form of a protectionist backlash directed at Japan's exports.[70] Such a course, which would have dire consequences for both the United States and Japan, has been threatened in the past. Responsibility for preserving the close and mutually advantageous friendship between the world's two largest market economies lies with the governments and firms in both countries.

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[67] Washington Post Editorial. Lunch with Mr. Nakasone. January 1, 1985. p. A14.

[68] Greenwald, Joseph A. The Trade Problem: Cyclical or Structural? [Updated address given by Joseph A. Greenwald].

[69] Lehmann, Jean-Pierre. p. 271.

[70] Wolff, Alan Wm. Avoiding a Collision with Japan. Washington Post, January 2, 1985. p. 19

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# JAPAN'S STRUCTURAL SHIFT FROM EXPORTS TO DOMESTIC DEMAND

By Jon Woronoff

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## I. INTRODUCTION

This article considers the structural shifts that are taking place in the Japanese economy, some of them a result of conscious efforts of the government and business circles, others a perhaps unwanted outcome of economic forces or the actions of other countries. The primary emphasis is on those shifts which affect Japan's foreign trade, although such shifts clearly are linked with domestic changes and, in particular, a maturing of the economy which should enhance the importance of domestic demand.

Section II sums up the essential findings of this study. Section III deals with what can only be regarded as a historically significant reversal of Japan's basic economic policy, that consists of a move from export-orientation and a focus on external markets to viewing domestic demand as the primary source of economic growth. Since the early postwar period, exports have been used to expand national production and lead to growth in other areas, including investment in plant and equipment, and eventually, consumption. Limitations to this policy have appeared due to natural constraints on new products, technologies, and markets—the latter being restricted not only by external demand, but emerging protectionism. Japan also seems to have realized that by being overly dependent on exports, its economy was placed in a precarious position, and that more balanced economic growth would be both sounder and safer.

Section IV describes the efforts made to bring about this reversal of policy and the difficulties encountered. The biggest impediment to strong government action arises from budget deficits that hamper measures to stimulate domestic demand through increased expenditures on public works, on the one hand, or tax reductions, on the other. This means that much of the effort must be made by the private sector. But the private sector has been long geared to exporting, and some promising domestic industries, like leisure and housing, are still weak. Consumer spending is also insufficiently vigorous to dramatically improve the sales of such industries.

Section V looks into the long-term prospects of shifting to domestic demand. In the longer term, it should be possible to reinforce essential domestic industries such as housing, leisure, and certain consumer goods. Even more can be expected from the natural expansion of the tertiary sector, partly by providing essential services to business and partly by providing somewhat less essential, but still desirable, services to the general public. The biggest potential source of domestic demand, however, is increased health care and welfare for a rapidly aging population.

This permits the conclusion to be more optimistic in the sense that Japan should be able to bring about this momentous change, which will not only provide a more secure and enjoyable life for its people, but also take some pressure off its trading partners.

## II. KEY POINTS

A. Japan's policy of export-orientation was a result of both economic forces and a conscious decision to expand exports to stimulate the economy. Since it was a conscious decision, it would be possible to reverse the policy through other conscious decisions which seem to be increasingly acceptable.

B. The economic forces which favored exports in earlier years have since changed radically and either encourage them less or actually discourage them. This provides a strong impetus for Japan to make the necessary conscious reversal of policy.

C. The Japanese government, which is under strong pressure from other countries to reduce its trade surplus, has taken the lead in fostering the structural change. Its influence with the private sector varies, however, since much of this occurs through non-binding "administrative guidance." The business community however, appears to be gradually falling into line and, in some cases, has been constrained to follow the guidance of the Ministry of International Trade and Industry.

D. It would, however, be unwise to assume that the Japanese are particularly happy about the policy reversal, or would continue moving toward the new policies without some pressure from foreign countries. Such pressure can be negative, by introducing restrictions against Japan's exports, or positive, by urging Japan to expand domestic demand.

E. The possibilities of increasing domestic demand through government action are sharply inhibited by the policy of administrative reform by which government involvement in the economy is being reduced and budget deficits are being cut. That policy, however, cannot be maintained indefinitely, and there must eventually be an acceptance of the need to interrupt or moderate it in order to stimulate the economy. Such proposals have already been made by leading politicians and some segments of the business community.

F. For the moment, it is unlikely that consumption expenditure by the general public will be sufficient to boost domestic demand. Still, there is bound to be a shift in consumer purchases toward housing, leisure, and welfare, which will alter the composition of spending and help industries that are more oriented toward domestic demand.

G. Not until the prices of goods and services in Japan's domestic markets decline, however, can the full benefits be obtained. Such a decline is likely to occur as export possibilities shrink and companies turn toward the domestic market. This should incite price competition and force manufacturers who have not been engaged in international competition to enhance productivity. Improved productivity in local distribution systems would also help to expand domestic markets.

H. The short-term results of the structural shift heretofore have been extremely meager. The chances of long-term results are far better. But this will require more rational policies by the existing leadership and doubtlessly be hastened by the coming of a younger generation of leaders more in tune with present needs.

## III. Policy Reversal: From Export-Orientation to Domestic Demand

### A. LIMITATIONS TO EXPORT-LED GROWTH

Ever since Japan's economy recovered from World War II and then launched into rapid growth in the 1960s, it has placed exceptionally high priority on exports. In some cases, this merely implied exports of products over and above what could be sold domestically. But, more often than not, it involved a deliberate strategy of exporting as much as possible.[1] Capacity in certain industries was systematically built up to export large quantities. In a remarkable number of cases, industries were actually created for export purposes, and the same products were only distributed domestically somewhat later.[2]

The result was an amazing expansion in Japan's role as an exporter. Year after year, exports rose by considerable increments of as much as 30 and 40 percent. During the 1960s and 1970s, the average annual rate of growth was about 20 percent (in nominal terms). This allowed Japan's exports to rise from a mere $4 billion in 1960 to a monumental $147 billion in 1983. It also permitted that country to increase its share of total world trade from some 3 percent to about 7 percent during that period.

This spurt of export growth, however, could not continue indefinitely, and a number of unforeseen circumstances intervened to curtail the growth much sooner than expected. Among the natural reasons for Japan's exports to expand less rapidly are the inherent limitations on new opportunities as old ones are used up. There is a finite market for any new product, and by pushing sales so hard, these markets were quickly saturated or at least reached a point where further expansion was slower. Concurrently, the number of new products Japanese industries could produce and market slackened, since, rather than take over existing standard articles, they eventually had to develop new products, like video cassette recorders or video discs. This was obviously a slower process.

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[1] For a study of the policy's rationale, see Czinkota, Michael R. Export Promotion. New York, Praeger, 1983.

[2] Interesting case histories are provided by Baranson, Jack. The Japanese Challenge to U.S. Industry. Lexington, D.C. Heath, 1981 (for television); and Okimoto, Daniel I., Takuo Sugano, and Franklin B. Weinstein. Competitive Edge. Stanford, Stanford University Press, 1984 (for semiconductors).

Equally important, the Japanese were running out of untapped markets. They originally pursued a dual-pronged strategy. The first was aimed at the industrialized countries, beginning with the United States, which was a very open market and also a very affluent one. Vast amounts of goods could be sold at low prices in the early years. More recently, the product mix has shifted toward products of high quality and higher prices. This then spread to a somewhat less receptive Europe. The second prong of the strategy, particularly in the early days, when quality was not as good, was to start in nearby Asian countries where price was a major consideration. From there, they moved into Africa and Latin America. The Middle East, flush with oil revenues, was an unexpected bonanza. Meanwhile, trade also developed with Eastern Europe, the Soviet Union, and the People's Republic of China. But once having penetrated markets around the world, there were not many left to conquer and those were usually quite meager.

This normal evolution was hastened by the oil crisis. While much is said about the fact that higher oil prices created difficulties for producers like Japan, not enough attention is paid to what this did to their clients. For, with more of their foreign exchange earnings devoted to oil imports, countries could afford less for other things. Individuals also had less money to spend and were not as able to buy Japanese products. The real crunch in this respect came with the worldwide recession of the late 1970s and early 1980s, when many markets shrank and, as oil prices fell, even Middle Eastern markets turned sour.

The biggest threat to exporting as a strategy, however, has been the rise of protectionism. Japan and several other countries have simply been too successful with their export-oriented policies. They have managed to export so much of certain articles that the local industries have been alarmed and have called for protection, which has been occasionally granted. This includes a growing list with textiles, steel, television, automobiles, and some electronics among the most prominent industries. But there are many more. It has even been claimed that approximately 60 percent of Japan's export products have been covered by some form of restriction or "voluntary restraint." [3]

## B. RISKS OF EXCESSIVE DEPENDENCE ON EXPORTS

Even in the best of times, it is risky for an economy to be overly dependent on exports as a source of growth. For, like it or not, its economy then becomes extremely vulnerable to major changes in the trading environment.

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[3] For the trade situation, and especially trade conflicts, among others, see Destler, I.M. and Hideo Sato. Coping with U.S.-Japanese Economic Conflicts. Lexington, D.C. Heath, 1982; and Jon Woronoff. World Trade War. New York, Praeger, 1984.

On the one hand for Japan, there is increased reliance on the necessary inputs for any added production. For some countries, which have reasonably abundant natural resources necessary in the manufacture of export products, this is not a serious problem. When a country imports as much of the content of its exports as Japan, however, this creates very thorny difficulties. One is the need to keep imports flowing because, if there is any interruption, export shipments will falter. Whereas Japan was once content to buy its raw materials on world spot markets, its requirements have since driven it into a position where it must make major overseas investments in prospecting, mining, processing, and transport of natural resources. Even then, it could not avoid situations where a political distruption, as in Iran, or merely a port strike elsewhere, could halt the flow.[4]

Yet, even if Japan managed to keep raw material imports coming, it was faced by another unwanted difficulty. By constantly requiring larger quantities of finite natural resources, it was contributing to a long-term rise in the cost of those imputs. To maintain a reasonable profit level, it would have to pass any increased costs on to consumers. However, if it were pushing exports very strongly or if it faced growing competition from other countries, it would not be able to do so. It would be squeezed between rising input costs and stable output prices, which meant narrowing profits (or losses) for manufacturers and a painful worsening of the terms-of-trade for the nation as a whole.[5]

The other implication of an excessively export-oriented economy is that by paying so much attention to exports, inadequate attention could be devoted to sectors more directly related to domestic consumption. For example, if it is easier to get bank credit for the production of exports, that is what will tend to be produced. If there are subsidies in addition, then companies will concentrate even more on goods for foreigners. With growing competition in overseas markets, the greatest efforts to raise productivity will occur in the export-related sectors.

This process definitely has occurred in Japan and can be inferred from many indicators. Companies dealing in exports are usually bigger, richer, and enjoy greater government support. Their factories are modern, efficient, and increasingly automated. Factories making goods solely for domestic consumption are often small, poorly capitalized, and quite inefficient. They have trouble recruiting workers and pay them less. More broadly, manufacturing as a whole is quite advanced while agriculture, construction, and many services are relatively backward.

This means that, while export-orientation has given the Japanese economy a significant impulse and clearly contributed to growth and development, it has not been without its drawbacks. These disadvantages have gradually been noticed not only by policy-makers, but the average Japanese citizen. After all, it is the local consumer who is hurt most by the lack of good and inexpensive articles arising from the relative backwardness of sectors which are more closely related to domestic demand.

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[4] The causes of such investment are discussed in Sekiguchi, Sueo. Japanese Direct Foreign Investment. Totowa, Rowman & Allenheld, 1979; and Woronoff, Jon. Japan's Commerical Empire. Armonk, M.E. Sharpe, 1985.

[5] Japan's terms-of-trade decreased from 100 in 1970 to a mere 57 in 1981, far worse than the average level of 79 for the advanced countries as a whole.

If this were not deplorable before, it certainly is today. Previously, it could be felt that export growth, by propelling the economy, would eventually help the domestic consumers as well. Now, with exports growing only moderately, it takes a very long time for any trickle-down to be felt. Moreover, it has finally become clear to people in government and business circles that it is necessary to make up for at least some of the insufficiencies arising from earlier neglect. At the same time, they realize that—at this particular juncture—export promotion can not only be purposeless, but counterproductive. Every time Japanese manufacturers mount a serious sales campaign, there is a swift reaction from the country concerned as local producers call for help and local politicians react more energetically.

### C. BALANCING ECONOMIC GROWTH

For these various reasons, the Japanese government, business circles, and the population as a whole, have become aware that a total export-orientation is not the wisest policy—at least not for the moment. Naturally, every time sales fall at home, some manufacturers are tempted to compensate by selling abroad. And no one suggests that exports should not grow by some "reasonable" rate, a rate which is always presumed to be higher than overall growth. But on the official level, at least, it has been conceded that Japan must shift from exported growth to one that is based more on domestic demand.

It might be noted that historically, this was not quite a spontaneous conclusion. The first time the Japanese adopted this new orientation was in early 1978, when Prime Minister Fukuda agreed to make Japan a "locomotive" economy along with the United States and Germany, to pull the others out of the recession. The decision, however, arose only after very strong complaints and warnings from the American Government and tough negotiating by its trade representatives. Still, the Fukuda cabinet did agree to raise the growth target to 7 percent and engage in considerable pump priming to attain it.[6]

Ever since then, the successive Japanese governments have formally endorsed a policy of encouraging domestic demand while tempering export growth. This was the policy of Prime Ministers Ohira, Suzuki, and now Nakasone. He has repeatedly talked of the need to "achieve economic growth centering on the expansion of domestic demand." [7] In the Economic Planning Agency, which is in more direct charge of overall policy, this has also been the attitude. Recent plans have explained in some detail how it was intended to boost domestic demand. Over the years, a number of special packages were adopted to stimulate appropriate sectors.

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[6] See I.M. Destler's contribution in William J. Barnds (ed.). Japan and the United States, Challenges & Opportunities. Washington Council on Foreign Relations. 1979. p. 190-230.

[7] Speech by Prime Minister Yasuhiro Nakasone to the 101st Session of the National Diet, February 6, 1984.

The Ministry of International Trade and Industry was obviously less attracted to this policy, but it also has fallen into line. While encouraging some new sectors, it has clearly attenuated its support of exports. It has also tried to keep sudden spurts of exports from creating more trade friction with leading partners. Thus, MITI accepted the need to enforce "voluntary restraint" not only for exports of automobiles to the United States and Canada, but also for video cassette recorders or machine tools to the European Community before open conflicts arose. It has also cautioned various industries to avoid surges, acts of dumping, or even exceeding certain invisible limits to their market share.[8]

There is no question, therefore, that the shift from the old policy of export-orientation to a stress on domestic demand has been made at the top and is gradually filtering down to lower levels. Implementation however, has been a very different matter.[9]

## IV. Stimulating Domestic Demand: Short-Term Difficulties

### A. CONSTRAINTS ON GOVERNMENT ACTION

The principal technique used by the Japanese government in stimulating the economy has traditionally been to step up public spending. In this form of pump-priming, most of the weight has placed on a sharp increase in public works. Already during the 1960s and 1970s, this was used as a counter-cyclical tool each time growth slowed down or a more marked recession set in.[10] Now it has been adopted as one of the primary means of promoting domestic demand in general.

Thus, each year when the budget is adopted, the government tries to adjust the public works component to the needs to expanding domestic demand. This was most striking in 1978, when Fukuda agreed to make Japan a "locomotive." New projects were hastly launched and considerable amounts spent. Thereafter, the need to boost domestic demand was heard as an additional explanation for any request to initiate new public works projects. Since Japan still has many things to accomplish in building infrastructure, there was no shortage of suitable projects: roads, bridges, schools, parks, amenities, even a new "shinkansen" (high-speed rail) line.[11]

Unfortunately, although there has been a real need for public works, there was increasing difficulty in finding the necessary funds. The recession, and the slowdown in the Japanese economy as a whole, resulted in smaller increases in both corporate and personal earnings. Thus, revenue failed to keep up with expenditures. Japan, which had once had a nicely balanced budget, suddenly found that it was running a repeated and increasingly large budget deficit. Only a few percent of total outlays in the early 1970s, the deficit ranged as high as 25 to 30 percent in the late 1970s, and was only reduced to about 20 percent by the early 1980s.

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[8] For the role of the government, and its interaction with the private sector, see Yamamura, Kozo (ed.). Policy and Trade Issues of the Japanese Economy. Seattle, University of Washington Press, 1983.

[9] The difficulties of policy formulation and implementation can be understood from Higashi, Chikara. Japanese Trade Policy Formulation. New York, Praeger, 1983.

[10] See Nakamura, Takafusa. The Postwar Japanese Economy. Tokyo, University of Tokyo Press, 1981; and Uchino, Tatsuro. Japan's Postwar Economy. Tokyo, Kodansha, 1983.

[11] The best idea of all that can be done may be drawn from former Prime Minister Kakuel Tanaka's plans to remodel the Japanese archipelago, expressed in his book, Building a New Japan. Tokyo, Simul Press, 1972.

Ultimately, funding government expenditures became virtually impossible without raising taxes substantially, a measure the ruling Liberal Democratic Party hesitated to take. Instead, like many who engage in pump-priming, it sought an easier way out and financed much of this by floating new government bonds. These bonds, which were once assumed to be quite temporary, have become a permanent fixture. Japan thereby accumulated an unenviable debt which totalled some 110 trillion yen (about $440 billion) by early 1984, and could mount much further. The government, which originally intended to wipe out the deficit and the deficit-covering bonds by 1984, has since admitted that this will not be possible before 1990. And many observers doubt it can be achieved even by then.

Faced with this mounting debt, the government eventually was forced to conclude that it could not continue along the same path forever. It therefore acceded demands from business leaders that a program of administrative reform be introduced and rigorously carried out. In January 1981, Toshiwo Doko, a former president of Keidanren (The Federation of Economic Organizations), was appointed chairman of the Second Ad Hoc Committee on Administrative Reform by Prime Minister Suzuki. During the ensuing two years, this group worked out a series of proposals which provided for cuts in government outlays, reductions in the civil service, and disbanding or privatization of several state agencies. On coming to power, Prime Minister Nakasone—who had been Director General of the Administrative Management Agency all this while—pledged to back administrative reform to the hilt.

The basic thrust of these proposals, repeatedly expressed by Doko and other members, was "administrative reform without a tax increase." This is extremely important in this context. A reform based on increased taxes would not only have made it possible to cover the deficit, it would have contributed to the government's role in stimulating domestic demand. Instead, what now had to happen, by and large, was to reduce the government's activities. This took the form of, first, a freezing of expenditures, and later, an actual reduction of certain programs. Public works were not excluded. Thus, during the early 1980s, government spending became a negligible factor in economic growth and occasionally a drag.[12]

### B. INADEQUATE PRIVATE SECTOR REACTION

Since the government spending could not be expansionary, it was eventually suggested that the primary role in stimulating domestic demand should be borne by the private sector, either acting on its own or on behalf of the government. But this encountered other problems.

One of the strongest stimuli for growth had been investment in plant and equipment by private companies. This was done out of company earnings and sometimes favored by cheap loans or generous write-off provisions. No matter how great the incentives, however, investment was justified only if private entrepreneurs calculated that they could make adequate use of the new facilities and that more modern equipment would boost profitability.

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[12] See the Monthly Finance Review, Ministry of Finance, April 1984, p. 15-8.

During the earlier years of rapid growth, there was no doubt that new equipment would serve such purposes. However, as the world economy slowed down and Japanese growth faltered during the 1970s, there was ever less cause to invest. If sales were not going to expand substantially, there was no need for additional capacity. Nor was it even certain that modernization would help much, although this latter cause did remain somewhat effective. Thus, just when it was needed most, private sector investment was also weakest.

More to the point, a disproportionately large share of private investment in plant and equipment had always been made by the large companies specializing in export production. Smaller companies were rarely as vigorous. Indeed, they did not have the same access to capital or know-how. And industries producing largely for the domestic market, many of them small to boot, were among those with the least aggressive investment policies. This meant that private investment was frequently only a marginal contributor to economic growth except when exports picked up. Since the goal now was to avoid excessive growth in exports, private investment could not really be counted on too much until the economic priorities truly changed.

It was hoped that housing construction might make a useful contribution growth, both in general and to help the construction firms suffering from fewer public contracts. After all, this is one of Japan's single biggest industries. Periodically, the government lowered the interest rates on housing loans, offered special loans for public housing, and made other gestures. But this came in the midst of uncharacteristically high interest rates which were more due to American economic policy than Japan's. Thus, housing construction was not stimulated, and private investment in housing was more often a negative than a positive influence.

### C. WEAK CONSUMER SPENDING

This meant that the brunt of the effort would have to come from private consumption expenditure which, incidentally, is usually the basic driving force of balanced economies. Even in Japan, this element provides more than half of total gross national expenditure and should be expected to play a leading role under any circumstances.

In the past, the Japanese economy has counted rather heavily on private consumption to transmit the expansion in export production to other sectors. While the economy grew rapidly in the 1960s and into the 1970s, wages were increased very substantially, especially in export-oriented industries. With more money to spend, employees began buying more necessities and also more luxuries. This included many consumer durables as well as food and clothing. Business in these sectors expanded, and higher wages permitted more sales.

The 1973 oil crisis and subsequent recession put an end to the earlier improvements. In order to pay for the costly oil, it was decided that the whole nation had to tighten its belt, and one of the noteworthy measures was to hold the line on wage increases. Wage hikes diminished from year to year and were soon smaller than they had been in decades. That was in nominal terms. In real terms, they became exceedingly modest even when inflation rates were down. In fact, for a number of years, the real increase in personal income was only a few percent, which was hardly enough to boost any economy.[13]

The situation for disposable income was even worse. Due to bracket creep caused by inflation, taxpayers were continually paying higher nominal taxes. The result was that increases in disposable income were quite small, often only a percent or so. While more women were working, the supplement to household income was often modest. So, according to surveys of the Tokyo Metropolitan Government and others, the average family hardly had more money to spend than the year before.[14]

With disposable income scarcely growing, it would have been impossible to augment consumer spending unless people dipped into their existing savings or saved less out of current income. Instead, more often than not, people saved more since they were worried about the future. This made increase in private consumption expenditure fairly insignificant. Although at times it contributed more to economic growth than government spending or private investment in plant and equipment, it did not become a real economic motor either.

## V. Rise of Domestic Demand: Long-Term Prospects

### A. REINFORCING DOMESTIC INDUSTRIES

While many of the efforts made thus far to shift demand from foreign to domestic sources have been rather paltry and unproductive, this does not mean that the long-term prospects are necessarily bleak. It must be realized that a change of this magnitude takes time and that the recent circumstances have been far from propitious.[15]

It was already mentioned that for decades, production for domestic consumption had, on the whole, enjoyed much less government support than export production. To be perfectly frank, it was actually discouraged and undermined in certain ways. That such industries could not respond quickly is not surprising. However, with greater access to credit, improved machinery and methods, and an expanded market, they could do rather well.

One basic problem is that products for domestic consumption are still relatively expensive. Although some of the price differences can be traced to Japan's taxes on commodities, higher prices on some products are inexplicable, since they are the very same products that are made for export—like household appliances, electronics and automobiles. But the leading companies have tended to take the domestic clientele for granted while competing fiercely for foreign sales. Now that foreign sales are sluggish, and the only way of filling capacity is to sell more at home, they will probably lower their prices and become more aggressive in selling to fellow Japanese. Indeed, it has been noted of late that such products are being put on sale with prices slashed more than was previously imaginable.

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[13] Ibid.

[14] See the monthly and annual surveys of family income and expenditure issued by the Tokyo Metropolitan Government. While specific to Tokyo, the situation was more likely to be worse elsewhere.

[15] An idea of the earlier changes in industrial structure can be drawn from Kosai Yutaka and Yoshitaro Ogino. The Contemporary Japanese Economy. Armonk, M.E. Sharpe, 1984. p. 57-92.

For the products which are made almost entirely for domestic sale, things like home furnishings, silverware and utensils, some clothing and footwear, the problem is that production is often on a very small scale and with rudimentary equipment. While the scale is not likely to change, it would be entirely possible to enhance productivity with better machinery or production methods. This would bring prices down and make the goods easier to sell.

Perhaps the best example of the potential is in a sector of tremendous importance: housing construction. Not only is housing a vital item for every family, it is generally felt that the existing stock is inadequate. People want more space and greater comfort. People will scrimp and save for this, and latent demand remains very strong, yet recent years have witnessed an unprecedented slump, with the number of housing starts falling from about 1.5 million in 1976 to only 1.1 million in 1983. The reason for this is clear—housing is too expensive for many.

Some Japanese tend to think that housing must be expensive, since they are living in a crowded country and the land is very costly. Still, with better zoning laws and land use, it would be possible to produce more high rise apartments that make better use of the land and decrease the cost per unit. By putting up apartment buildings that utilize more prefabrication, standardization, and efficient building techniques, it should be possible to bring actual construction costs down. With a lower price for somewhat better units, the construction industry could be revived and perhaps flourish.

### B. EXPANSION OF THE TERTIARY SECTOR

Nevertheless, it is not in manufacturing or construction that the biggest possibilities lie. Much more can be done to stimulate domestic demand in the tertiary sector. Services are inherently much more directed toward local use, as opposed to exporting, than are material products. Thus, the larger the tertiary sector becomes, the more it turns into the new motor of growth led by domestic demand.

Naturally, Japan has already moved in this direction and could probably be regarded as having entered the post-industrial era. The tertiary sector presently accounts for 58 percent of gross domestic product and 56 percent of persons employed. But that is still a relatively low level compared to the United States and some European countries. This means that there is considerable scope for progress.

It is easy enough to note a fair number of areas in which the tertiary industries are still relatively rudimentary or even nonexistent. Even in finance, banks and insurance companies lack certain functions, among which consumer credit is a crucial one. In other services related to business, there is a shortage of print shops, messenger services, leasing firms, and so on. More surprising, data processing and some telecommunications are scanty. There is not a very highly developed software sector. The small number of consulting firms is also notable, whether for lawyers, auditors, architects, or even engineers.

The problem in distribution is somewhat different. There is no shortage of wholesalers and retailers. If anything, there are too many, roughly twice as many per 1,000 customers as in the United States. What must be done here is not to expand but to modernize and rationalize. This will make it possible to reduce the rather bloated costs of distribution which contribute to Japan's generally high internal price levels. With lower prices for just about everything that is distributed, it would be possible to sell more and help the rest of the domestic economy.[16]

When it comes to person-related services, there is also ample room for growth. The boom of fast food stores, home delivery restaurants, dry cleaners, and the like, is already fading. But there is still need for more and better leisure activities. Most of the present ones are concentrated in game centers in local neighborhoods or amusement parks around the cities. So far, however, there are amazingly few real vacation spots away from the cities where people might send their children or go themselves for one or more weeks. This could give an immense boost to domestic tourism and also revive some of the decaying mountain and coastal villages.

For the moment, the chances of growth in each of these sectors differ considerably. There is no doubt that services directly related to business will expand more rapidly in the near future. After all, companies have more money to spend on such things and, if this will make them more efficient, the expenses can be readily justified. Even while writing that much remains to be done, it is necessary to remember just how much has been done and is being done here. Leasing hardly existed a few years back and is now thriving. Software houses and "value added networks" are bound to grow at an incredible pace in the coming years.

Improvements in distribution which, by lowering costs and, therefore, actually promoting economic efficiency, have also been quite remarkable. Over the past decade, the corner grocer has been joined by the chain store, the convenience store, and the superstore, all of which are very well organized and efficient. But it takes time for the older establishments to disappear as their proprietors retire or go under. And this process can be delayed where shopowners use their political clout to keep modern operations out of their area. The trend, however, is sufficiently clear.

The biggest question mark lies with the person-related services and especially the whole issue of leisure. Many Japanese insist that they do not need more free time since they are perfectly happy working. Others admit that they would like longer vacations, but they cannot afford them. Such comments have been heard in other societies, and yet the people gradually adapted, if not themselves, then most assuredly their children. In Japan, it is also a matter of time. But, if the government is really serious about switching to domestic demand, it could hasten the process by seeing to it that workers are given sufficient vacation time, and companies do not exert undue pressure to keep them from using it.

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[16] The inefficiencies of the distribution system, and the difficulties in overcoming them, are indicated in Woronoff, Jon. Japan's Wasted Workers. Totawa, Rowman & Allenheld, 1983. p. 166–75.

### C. COMING OF THE WELFARE AGE

There is one last area which also belongs to the tertiary sector but deserves special treatment. It includes most of the things ordinarily lumped under the heading of health and welfare, namely care for the ill, the handicapped, the homeless, the retired, and the elderly.

In Japan, health care is already reasonably well developed, and the level of expenditures is as high as in many Western nations. But there is probably still some room for growth because hospitals and clinics are often overcrowded and both understaffed and underequipped. Moreover, it is obvious that a growing share of the patients are elderly people who need more personal attention and care. The number of bedridden persons has increased sharply of late. When the improvements will come is uncertain, since the costs have mounted so swiftly and some of the health schemes are facing financial problems.

Facilities for the aged, on the other hand, are patently inadequate. It was only a few decades ago that Japan was a country of young people, and it is only now that the full realization of its aging is being noticed. The so-called greying of the population was much faster than anyone had expected and more pronounced than elsewhere because Japan's life expectancy is so high. Indeed, it is generally assumed that by the year 2020, Japan will possess the largest proportion of old people anywhere in the world.

Needless to say, not all these old people will be able to look after themselves. Despite a preference for three-generation families, many old people will not have dependents who are willing to accept them or, in some cases, even alive or sufficiently solvent to do so. Some will require special care which ordinary family members cannot provide. So there must be many more old age homes and specialized geriatric clinics. Whether they wish to or not, the Japanese government and people will have to create the necessary infrastructure and services.

With the burgeoning of the aged population, more and more investment will be made in related sectors. Some of the initiative will come from private entrepreneurs, such as doctors running special clinics, or businessmen opening old age homes and residences. Even more probably will have to come from the government. Given its preoccupation with administrative reform and a marked dislike for shouldering new burdens, there is liable to be considerable resistance, and the needs may only be met slowly and grudgingly. Yet the needs should be expanding so massively that even by just reacting to the most obvious ones, major projects should be launched.[17]

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[17] See Nihon University Population Research Institute, a study entitled "Demographic-Economic Model Building for Japan," 1983.

While this sort of activity is often regarded more as a social concern than anything else, it is unwise to neglect its economic dimension. Health and welfare is a sector of the economy which absorbs vast amounts of public funds. It is also a business which will keep many establishments with numerous staffs active and perhaps prosperous. Its share of tertiary activities, and domestic demand, should expand very sharply in the years to come. According to even the most cautious estimates, the level of welfare expenditures would have to double by the end of the century and perhaps double again early in the 21st century.

## VI. CONCLUSIONS

Looking back on the recent past since the need for a greater emphasis on domestic demand was formally recognized, it does not appear that very much has been accomplished. In most of those years, it was still exports that led the economy. Export growth was larger than overall growth in all but one year, 1982, when exports tumbled into negative growth for the first time in decades. Then, no sooner had the American economy recovered, than Japan apparently reverted to its old habits.

Yet, even during this brief period, there was a difference. While it was not possible to expand domestic demand very much, and certainly not enough to make it an alternative growth motor, it is clear that exporting was attenuated. Given its high quality products and the exceptionally attractive prices deriving from a cheap yen, Japan could have sold much more. After all, its competitors in the rest of Asia boosted their exports more rapidly and more substantially while Japan showed relative discipline. This discipline was hardly spontaneous. It was clear that without it, the country would have been subject to even more criticism due to its embarrassingly large trade surpluses. But at least this accomplished one side of the task of balancing growth.

The essential hitch was that when exports were sluggish, the economy simply failed to grow very much, which made it exceedingly difficult to promote domestic demand in any meaningful way. Now that the world economy is improving and exports are picking up, there is bound to be some positive influence on domestic demand. The government will collect more taxes and be able to spend more, wages may improve a bit and people can consume more, and certainly there will be a direct impact on investment in plant and equipment.

This will hopefully give the policy-makers and private businessmen more time to work on the long-term aspects of developing domestic demand. Better machinery can be put into factories producing for local consumers, construction methods can be rationalized to provide more and cheaper housing, mass merchandising could bring down the price and increase the sales of many standard items. Above all, clever entrepreneurs may realize the potential of new types of services and expand them rapidly while the government makes up for some glaring insufficiencies in the health and welfare system.

This is not just wishful thinking, even though there is stubborn resistance to change in some quarters. Many bureaucrats have won their promotions by encouraging domestic companies to export, and many banks feel safest lending to those with a proven record of foreign sales. Businessmen often know overseas markets better than their own, and prefer making bulk sales to big foreign customers rather than catering to a multitude of small local consumers. But they can all mend their ways once it is decided that the future lies with domestic-oriented sales (plus some exporting on the side).[13]

Within the general public, there is nowhere near as much resistance to change. If anything, it is the vast mass of Japanese consumers—and voters—who stand to gain from such change. For once, manufacturers will be more concerned to produce what consumers want most and may bring prices down to encourage sales. For once, it will become a patriotic duty to improve consumer housing, ~~amenities~~, and lifestyle. Consumers will benefit even more from some reasonable concern with their security as regards old age and health. While more diffuse, they can form a vital domestic pressure group to remind the nation's leaders of their pledges.

That the Japanese can gain a lot does not detract from the advantages to foreign countries which happen to have been at the origin of this shift. There appears to be little hope that the end of export-oriented growth will result in an appreciable opening of the Japanese market. The growth sectors, as noted, are not so amenable to trade, and the Japanese will probably fill all the gaps themselves in short order. But at least they will be less intent on selling their exports as massively once they have other sources of income. This could calm some of the trade friction and make Japan an easier country to get along with.

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[13] Proponents of this approach include leading Liberal Democratic Party politicians like Toshio Komoto, who recommends stimulative policies, and Kiichi Miyazawa, who proposed a "doubling the national assets" plan. In business circles, there is strong support for more stimulation among smaller firms and especially in the construction industry.

# JAPAN'S MACROECONOMIC PERFORMANCE AND ITS EFFECTS ON THE JAPANESE-U.S. ECONOMIC RELATIONSHIP

By Masahiro Sakamoto

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## I. DOMESTIC DEMAND-ORIENTED GROWTH DESIRED

In the fall of 1984, the Economic Planning Agency (EPA) of the Japanese government revised its economic outlook, raising the expected growth rate for Japan's gross national product (GNP) in fiscal year 1984 (ending in March 1985) to 5.3 percent from the original estimate of 4.1 percent issued earlier in the year (see Table 1). This revision was necessitated by the recent large surplus in Japan's trade balance.

Japan's major policy goals, however, had not changed. These were: (1) to achieve an economic growth rate in real GNP of 4.1 percent, primarily oriented toward domestic demand; (2) to maintain price stability; (3) to promote Administrative Reform (a program to streamline the Government in order to reduce the budget deficit); and (4) to enhance international cooperation.

Developments in 1984 indicate that the recovery of domestic demand, which was weak in 1983, has finally been established. Business investment has been increasing more strongly than was anticipated, although consumer expenditures as well as residential construction are still not as strong as originally forecast. Prices remain stable, and the employment situation has been improving. Considering these developments, Japan's macroeconomic performance in 1984 can be considered to have been satisfactory on the domestic front.

## TABLE 1.—CHANGES IN JAPAN'S REAL GROSS NATIONAL PRODUCT

[In percent]

| Component of Gross National Product | Percentage changes over the previous fiscal year | |
|---|---|---|
| | Fiscal year 1983 (estimate) | Fiscal year 1984 (forecast) |
| Private final consumption expenditures | 2.9 | 3.6 |
| Private residential investment | 7.3 | 4.0 |
| Private plant and equipment investment | 3.8 | 8.1 |
| Expenditures of the government | 1.9 | 1.7 |
| Exports | 0.4 | |
| Imports | 0.3 | |
| Gross national expenditure (= gross national product) | 3.7 | 5.3 (4.1) |
| Contribution to total GNP | | |
| Domestic demand | 1.9 | 4.0 (3.6) |
| External demand | 1.8 | 1.3 (0.5) |
| Current account balance (dollars in billions) | 24.2 | 33.0 (23.0) |

Note: The figures in parenthese are those in the original forecast.

Source: Japan Economic Planning Agency.

In terms of the external sector, however, imbalances have been growing. On current account (net exports of goods and services plus unilateral transfers), the surplus is likely to reach about 3 percent of GNP this fiscal year ($33 billion in the revised outlook). This has been the major contributor to the upward revision in the projected GNP growth rate. The growing surplus on current account has been offset by an increasing deficit on the capital account (investment and other flows). This deficit is so large that the overall balance of payments has dropped into deficit.

In terms of the corporate sector, profits have been impoving—stimulated by both external and internal demand. Although partially supporting domestic demand through increased investment expenditures, the favorable profit position of the corporate sector has also contributed to the growing deficit on the external capital account. Combined with the high level of saving in Japan's household sector, excess funds have been transferred abroad, causing a large capital outflow. This can lead to a lower exchange value for the yen (see Table 2).

## TABLE 2.—JAPAN'S BALANCE OF PAYMENTS, 1981–84

[In billion yen]

| Item | Year | | | |
|---|---|---|---|---|
| | 1981 | 1982 | 1983 | 1984 |
| Current balance | 4.8 | 6.9 | 20.8 | 35.0 |
| Trade balance | 20.0 | 18.1 | 31.5 | 44.4 |
| Exports | 149.5 | 137.7 | 145.5 | 168.3 |
| Imports | 129.6 | 119.6 | 114.0 | 123.9 |
| Services | −13.6 | −9.8 | −9.1 | −7.8 |
| Transfers | −1.6 | −1.4 | −1.5 | −1.5 |
| Long-term capital | −6.4 | −15.0 | −17.7 | −49.8 |
| Assets | −22.8 | −27.4 | −32.5 | |
| Liabilities | 16.3 | 12.4 | 14.5 | |
| Basic accounts | −1.7 | −0.8 | 3.1 | −14.8 |
| Short-term capital | −1.0 | −1.6 | −0.02 | −4.7 |
| Overall balance | −2.1 | −5.0 | 5.2 | −15.2 |

TABLE 2.—JAPAN'S BALANCE OF PAYMENTS, 1981-84—Continued

[In billion yen]

| Item | Year | | | |
|---|---|---|---|---|
| | 1981 | 1982 | 1983 | 1984 |
| Balance with U.S.A. | | | | |
| Trade accounts | 16.3 | 15.1 | 21.2 | 14.5 |
| Long-term capital | −2.6 | −1.7 | −5.5 | N.A. |

Note: N.A. = not available.

Source: Japan Economic Planning Agency.

The causes of the development of a surplus in trade but a deficit on capital account are manifold. Fundamentally speaking, the Japanese current account surplus is considered to be structural in nature. It is caused primarily by the high rate of savings by the household sector. The surplus can be attributed to other factors as well, however. On one hand, stricter constraints on Japanese economic policies, fiscal as well as monetary, have produced a relatively delayed recovery in domestic demand. This has resulted in a sluggish increase in imports. On the other hand, the rapid recovery in the United States caused primarily by an aggressive fiscal policy has been a strong stimulus to Japanese exports to the United States. These exports have been further swollen by the "strong" dollar.

At the same time as high U.S. interest rates have been encouraging the outflow of capital from Japan and weakening the yen, the low value of the yen has increased the price competitiveness of Japanese export products and thereby exacerbated the imbalance. Moreover, the gap between the growth rates of domestic demand for the United States and Japan has been widening. As a result, the bilateral trade surplus with the United States will be substantial in 1984 and should continue into 1985. The net capital outflow to that country also is expected to be substantial.

The bilateral trade balance has been in favor of Japan since the late 1960s. One reason is the Japanese exports to the United States consist primarily of manufactured goods, while Japanese imports from the United States comprise not only manufactured goods but agricultural and energy products as well. Because of the relatively higher income elasticities of demand for Japan's export products (as income rises a greater proportion tends to be spent on manufactures than on agricultural or energy products), Japan's merchandise trade surplus with the United States is likely to continue to increase.

Keep in mind, however, that Japan must offset its deficit in services trade (currently $10 billion) and an oil deficit with OPEC countries ($30 to $40 billion) by generating a merchandise trade surplus with other partners. These turn out to be the United States, Europe, and some developing nations.

Assuming that the high Japanese savings rate, the large constraints on Japanese economic policies, and relatively higher U.S. interest rates are likely to prevail in the coming years, the Japanese surplus will tend to remain large in both the short term and the medium term. As stated earlier, Japan is currently a major exporter of long-term, finance capital. In this sense, it needs to offset its capital exports by a surplus in its trade accounts. The present size of the current account surplus (nearly 3 percent of GNP), however, appears to be too large to be compatible with international as well as domestic balances.

Japan's experience with economic policy since the second oil crisis in 1979 indicates that although macroeconomic policy instruments are effective in restricting economic activity, they are not as effective in stimulating the economy. Given this asymmetry in the efficacy of macroeconomic policy, and in view of the possibility that the Japanese current account surplus will remain large for some time to come, Japan's macroeconomic policy should not only be carried out flexibly and in a timely manner, but also should be supplemented by measures to increase demand. For example, higher levels of foreign economic assistance and liberalization of both the product and financial markets in the domestic economy should be promoted, even though some of these measures will not work to diminish the current account surplus in the short term—only in the medium term. Measures also should be developed to make use of the Japanese structural surplus to increase international economic activity.

Finally, in a world of increasing interdependence, the economic conditions and policies of a major country can dominate those in other countries. The initiative of the American President and others to reduce the U.S. fiscal deficit, therefore, is an important precondition for the flexible use of macroeconomic policies in other countries.

## II. How To Cope With the Current Account Surplus

### A. NATURE OF THE SURPLUS

According to an analysis made by Japan's Economic Planning Agency, Japan's large surplus on current account in fiscal year 1983 (ending in March 1984) can be attributable to the following factors: (1) the fall of energy prices; (2) the delay in Japanese domestic recovery relative to the rapid growth in the United States; (3) the relatively strong dollar; and (4) a residual (see Table 3).

TABLE 3.—ANALYSIS BY FACTOR OF JAPAN'S CURRENT ACCOUNT SURPLUS

[In billions of U.S. dollars]

| | 1982 (A) | 1983 (B) | Change (A-B) |
|---|---|---|---|
| Current account surplus | 9.1 | 24.2 | +15.2 |
| Fall of energy prices | 3.7 | 6.4 | +2.7 |
| Cyclical factors | 7.2 | 4.5 | +11.7 |
| Domestic factors | 4.0 | 5.5 | +1.5 |
| U.S. situation | 17.3 | 13.5 | +3.8 |
| Exchange rate | 6.1 | 12.5 | +6.4 |
| Residual (structural surplus) | 12.6 | 13.3 | +0.7 |

Source: Japan Economic Planning Agency, Annual Economic Report, 1984, Tokyo, 1984.

In fiscal year 1984, the cyclical factor and the strength of the dollar have played even more important roles. This is expected to enlarge the current account surplus to nearly 33 billion dollars (about 3 percent of GNP). The remaining part of the surplus of about $13 billion (equivalent to 1 percent of GNP) is regarded to be structural.

A structural surplus will be generated even under ideal conditions of high employment and price stability in both the United States and Japan. A surplus of this size was recorded in the early 1970s. The economic disruption following the two oil crises, however, concealed the underlying trends, which have become more and more apparent since 1981 as Japan has overcome the difficulties of the second oil crisis.

The current balance-of-payments situation for Japan can be characterized as that of an immature creditor nation, where a large surplus in trade accounts and in investment income transactions (proceeds from past investments) enables a large outflow of capital. This pattern can be seen in the historical balance-of-payments data of Great Britain (in the 19th century), the United States (from the 1910s to the 1960s), and Germany (in the 1960s and 1970s). Historical experience indicates that this phase as an immature credit country tends to be rather long before investment income from abroad is able to finance a trade deficit and the country becomes a mature creditor nation. Historically speaking, the surpluses on current account of immature creditor nation have been on the order of 3 percent of GNP.

According to a 1983 report by the General Agreement on Tariffs and Trade, the world economy has been suffering from a capital shortage since the 1970s. While the demand for capital has potentially been strong because of accelerating obsolescence, new demand emerging, and other factors, the supply of funds, or savings, to finance capital investments has been lagging behind. Under these conditions, how to make use of the Japanese surplus should be a concern not only to Japanese investors but to beneficiaries in other countries.

### B. NET LENDING BY SECTOR

When Japan's surplus is analyzed in terms of sectoral financial flows, the high savings rate in the household sector during the high-growth period of the 1960s financed the buoyant investment in the corporate sector. This investment was also supported by large profits. After the first oil crisis in 1973, profits in the corporate sector and therefore investment fell, while the savings rate of the household sector remained large. Therefore, the private sector as a whole (corporate plus household sectors) shifted to a net lending position. This surplus financed the net borrowing by the government through most of the 1970s.

The second oil crisis squeezed savings in 1979 and 1980 and caused a deficit in Japan's overall balance (the balance on current account). By 1981, however, the overall balance turned to surplus, as net borrowing by General Government declined to a level not exceeding the net lending of the private sector. Since 1983, as the financial position of the corporate sector has improved, the overall surplus has grown rapidly (see Table 4).

TABLE 4 — NET LENDING BY SECTOR IN JAPAN

(As percentages of gross national product)

| Year | Household sector<br>(1) | Corporate sector<br>(2) | Private sector (1 + 2)<br>(3) | General government sector<br>(4) | Foreign sector<br>(5) |
|---|---|---|---|---|---|
| 1970 | 8.1 | -8.8 | -0.7 | 1.7 | -1.0 |
| 1971 | 9.7 | -8.7 | 1.0 | 1.2 | -2.5 |
| 1972 | 10.1 | -7.4 | 2.7 | -0.1 | -2.1 |
| 1973 | 12.1 | -11.5 | 0.6 | 0.6 | 0.0 |
| 1974 | 12.1 | -13.6 | -1.5 | 0.4 | 1.0 |
| 1975 | 11.7 | -9.0 | 2.2 | -2.7 | 0.2 |
| 1976 | 10.7 | -6.4 | 4.3 | -3.7 | -0.7 |
| 1977 | 10.0 | -5.5 | 4.5 | -3.8 | -1.6 |
| 1978 | 9.2 | -2.8 | 6.4 | -5.5 | -1.7 |
| 1979 | 8.7 | -5.3 | 3.4 | -4.8 | 0.9 |
| 1980 | 10.4 | -6.8 | 3.6 | -4.5 | 1.0 |
| 1981 | 11.5 | -7.3 | 4.2 | -4.0 | -0.4 |
| 1982 | 10.3 | -6.5 | 3.8 | -3.4 | -0.6 |

Source: Japan Economic Planning Agency

It should be borne in mind that, in spite of the large squeeze on profits caused by the oil price increases, the corporate sector was hit less hard by the second oil crisis than the first. By then production had been rationalized and expenses had been curtailed considerably. Wage increases also have been moderate. In 1984, for example, the Spring Wage Round of negotiations resulted in only a modest wage gain for labor. Technological progress, in the form of raw-material savings, energy conservation, and the introduction of microelectronic apparatus has also made Japanese firms more resilient to sluggishness in the economy. Given the fall of energy prices in 1983, the cooperative attitude of labor unions, the large increase in exports, and the domestic recovery, the corporate sector is now enjoying a high level of profits.

The problem, however, is that corporations have not been using these profits entirely domestically. Even though domestic investment has recently recovered and should increase further, it seems that a substantial part of the surplus of the corporate sector is being invested abroad. Household savings are also being attracted to foreign investment vehicles, resulting in a huge capital outflow from Japan. How to direct this financial surplus to real domestic expenditures in the form of either consumer demand or of capital formation (housing as well as plant and equipment) is an extremely important policy issue for Japan.

### C. MEDIUM-TERM ISSUES

Whether the high level of savings in the household sector will persist in the long run is another important, though difficult, question to answer. A recent study suggests that savings ratios vary with differences in the age groups of principal income earners of households. The households with principal income earners under 30 and over 60 years old consume more than those whose principal earners are between 30 and 60, and therefore have a lower savings rate.

As the proportion of Japanese families with senior income earners increases toward the year 2000, the savings ratio may decline. However, since the proportion of households in the 30-to-60 age category also is expected to increase until 1990, it is possible that the overall savings rate may not decline until around that time, but then decline rather sharply.

As for the corporate sector, unless an unfavorable event such as a third oil crisis occurs, its net borrowing is not likely to increase, and may even decline, since most investment will be covered by retained earnings and depreciation allowances. In view of these circumstances, the net lending position of the private sector is not likely to decline for many years.

Assuming, therefore, that the net borrowing of the government declines as planned, the overall surplus for the country will tend to remain sizable, at least in the medium term. The implication is that, although the current account surplus is inflated and may diminish in the future, a sizable level of surplus should persist, at least in the medium term.

In view of this prospect, Japan's macroeconomic policy stance should be more along the line of how to stimulate domestic demand rather than discourage it. Institutional changes also should be examined from this standpoint. Of course, some caution should be exercised before embarking on institutional changes which have longer-term effects, because the danger exists that the current high level of savings may fall sharply in the 1990s with the aging of the population.

## III. Macroeconomic Policies To Reduce the Budget Deficit

### A. SIZE AND NATURE OF THE DEFICIT

The budget of the central government shows that the deficit for fiscal year 1984 is estimated to be 12.6 trillion yen (about $50 billion or 4 percent of GNP). Of this deficit, 6.5 trillion yen is financed by special government bonds (which finance the deficit for current expenditures) and 6.2 trillion yen by construction bonds (for the deficit for capital expenditures).

The deficit of the total government sector (including local government and social security funds) on a national income account basis is smaller than this amount: 9 billion yen in fiscal year 1982 (Table 5). The Japanese general government account includes a small deficit for local government, a sizable surplus in social security funds, and a large deficit for the central government. The central government heavily subsidizes other accounts.

TABLE 5.—REVENUE, EXPENDITURES AND TRANSACTIONS OF GENERAL GOVERNMENT IN JAPAN, 1982

[In trillion yen]

| | Central government | Local government | Social Security fund | Total |
|---|---|---|---|---|
| 1. Current revenue | 35.2 | 35.2 | 32.4 | 103.0 |
| 2. Current expenditures | 41.4 | 29.0 | 24.9 | 95.3 |
| 3. (Current transfers) | (−21.3) | (+15.1) | (+6.5) | |
| 4. Saving | −6.1 | +6.2 | +7.5 | +7.6 |

TABLE 5.—REVENUE, EXPENDITURES AND TRANSACTIONS OF GENERAL GOVERNMENT IN JAPAN, 1982—Continued

[In trillion yen]

| | Central government | Local government | Social Security fund | Total |
|---|---|---|---|---|
| 5. (Capital transfers) | (−5.9) | (+5.9) | | |
| 6. Investment | 2.5 | 15.7 | | 18.3 |
| 7. Net lending | −14.2 | −2.5 | +7.4 | −9.3 |
| 8. Current and capital transfers (3+5) | −27.2 | +21.0 | +6.5 | |
| 9. Net lending—transfers (7-8) | +13.0 | −23.5 | +0.9 | −9.3 |

Source: Japan Economic Planning Agency.

The size of the public sector as a whole is relatively small when compared with those of other countries. The size of the deficit for the general government sector also is not as large as in other countries (3 percent of GNP), although in the mid-1970s it was one of the highest among industrialized countries (5 percent of GNP).

Demand for government expenditures, however, has been growing and will continue to grow in the future. Because the ageing of the Japanese population is expected to advance rapidly, expenditures for social security will increase strongly.

In other areas, Japan has a strong need for expenditures to meet international as well as domestic responsibilities. Expenditures on national security and foreign aid, for example, have been increasing rapidly.

One third of the revenue of the central government is raised by issuing new government debt. This is an unstable condition. Furthermore, the government's huge outstanding debt requires large interest payments, which now account for 20 percent of the central government budget and squeeze expenditures on other important policy objectives.

Although Administrative Reform has been pursued vigorously, it has not brought a reduction in the deficit as was originally anticipated. The current aim is to eliminate the deficit that special government bonds finance (6.5 trillion yen in fiscal year 1984) by the late 1980s. To achieve this goal, effort has been made to control the public sector as a whole, to rationalize and set priorities for government expenditures, to adjust financial relationships between the central and local governments, and to make adjustments in the social security program.

The fiscal year 1984 budget incorporated a small increase in general expenditures. Priority was placed on expenditures for national security, foreign aid, and technology development, while subsidies and public works expenditures were reduced. In social security, the contributions of some beneficiaries were increased, and several indirect taxes were levied.

The medium-term budget outlook, which was issued by the Ministry of Finance, however, indicates that the elimination of special bonds used to finance the budget deficit will be a rather difficult task to achieve. The Japanese people are now facing a choice between accepting either a larger tax burden or poorer administrative services if the deficit is to be eliminated, even in the medium term.

### B. THE IMPORTANT ROLE OF FISCAL POLICIES

Although the rationale behind the program for fiscal reconstruction or reducing the central government debt is not contested, how to adjust fiscal policies in view of the many competing economic requirements is a delicate issue. Conflicts are not as acute when general economic conditions are favorable. Eliminating a deficit on the order of 2 percent of GNP, however, whether by increasing taxes or cutting expenditures, would tend to be deflationary, at least in the short term, and would likely worsen general economic conditions. At the same time, as stated earlier, Japan's external surplus will tend to increase in the future, as the expansionary efforts of monetary policy decrease. In view of these factors, more flexibility may be called for in the implementation of fiscal policy, if the need to stimulate the economy becomes strong (Administrative Reform notwithstanding).

Along this basic direction, fiscal policy tools should be improved in order to more efficiently stimulate the economy. In this sense, tax policy is very important, because as monetary interdependence has intensified, changes in taxes may now have come to play a more determinant role in affecting the behavior of businesses as well as households.

A good example of a sharpened fiscal policy tool is the proposed exclusion of taxes on interest paid on housing loans. Even though housing conditions in Japan are improving, a great deal of room still exists for dwelling improvement, which this measure would encourage. A mortgage interest deduction should, however, be temporary, since the savings rate may drop sharply in the 1990s.

Also deserving consideration is a tax break for capital investment, (similar to the investment tax credit in the United States), which was proposed in 1982 and 1983.

Finally, the possibility of private organizations taking over certain public sector activities has been intensively examined. As candidates for such transfers, the following areas have been proposed: urban development, public land use (including government-owned land, seashores, etc.) the provision of social services (facilities for the elderly, etc.), and the development of information infrastructures.

Such schemes are welcome from a macroeconomic standpoint, because the domestic economy could be stimulated by private initiative without widening the fiscal deficit in the public sector. The privatization of the Japanese National Railways and the breakup of Nippon Telegraph and Telephone Public Corporation may also have this effect in the long run.

## IV. INTERNATIONAL COOPERATION UNDER GROWING FINANCIAL INTEGRATION

### A. INTENSIFIED MONETARY PENETRATION

One of the reasons for the lag in the Japanese recovery in 1982 and 1983 has been a strong constraint on the effective use of monetary policy. The Bank of Japan did not lower its official discount rate until 1983, two years after the previous reduction in late 1981. The major reason for this delay was the weakness of the yen in the exchange market, due largely to high U.S. interest rates. Although it is debatable whether the large U.S. fiscal deficit is the major cause of high U.S. interest rates, economic conditions since mid-1983 indicate that the U.S. economy has been facing a situation of "crowding out." Since 1981, household saving has been absorbed by the deficit in the government sector. With U.S. private investment rising rapidly since mid-1983, the corporate sector, which was able to finance its investments internally in 1981 and 1982, has had to raise investment funds externally. This pushed interest rates higher, attracted foreign capital to the United States, and strengthened the dollar.

The detrimental effects of high interest rates on the world economy have been discussed both within and without the United States. However, it should be borne in mind that, since the late 1970s, worldwide financial integration has advanced very rapidly. This has intensified the effects of U.S. interest rates on the economies of other countries. Most pronounced have been the effects of financial integration on long-term interest rates, although short-term rates have also been strongly affected.

Some may argue, of course, that the inflow of foreign capital into the United States is not motivated solely by interest rate differentials. Political stability and the economic potential of the United States, as indicated by rising employment, investment, and productivity, also attract capital. Therefore, financiers from Japan and other countries may find a more attractive investment environment in the United States than in their respective domestic markets.

Although these capital flows have enhanced the U.S. recovery and thereby benefitted the world economy, some countries are facing "crowding out" at the international level. The higher U.S. interest rates add strain to the economies of other countries, especially of the debtor countries, by increasing their debt burdens.

The inflow of capital into the United States has strengthened the dollar. Whether a strong dollar is detrimental to other countries is a matter of argument. A strong dollar contraints the stimulative use of monetary policy of other countries and can be detrimental when combined with the domestic inflationary effects of exchange depreciation. On the other hand, a strong dollar enhances the competitiveness of foreign producers exporting to the American market. The current recovery of the world economy owes much to strong U.S. import demand, stimulated by expansionary U.S. fiscal policy as well as the sizable appreciation of the dollar.

The above argument suggests that in the short term, high interest rates and a strong dollar are producing a mixture of conflicting favorable and unfavorable effects on the United States and other countries. The present size of the U.S. deficit on current account, however, cannot continue in the medium term given the use of the dollar by many countries as a key currency. The higher interest rates in the United States also are not desirable for the U.S. economy in the longer term, which the U.S. authorities have repeatedly stated. A reduction of the U.S. fiscal deficit, therefore, is an essential condition for stable American growth, which also is extremely important in terms of international cooperation.

## B. INTERNATIONALIZATION OF THE YEN

In international monetary policies, Japan has been somewhat deficient in pursuing policies to strengthen the yen. The yen is not very attractive as an international currency. This tends to result in a weaker exchange rate. Currently, although Japanese funds are loaned in yen to non-residents, borrowers exchange these yen for dollars. Therefore, the greater Japan's capital outflows, the more the yen is under the pressure of depreciation.

Although Japanese capital outflows have been pulled abroad by the high interest rates in the United States, they also have been pushed by certain factors on the Japanese side. These have included the high personal savings rate and relatively fewer opportunities to invest. Another factor is the strong desire of Japanese financial corporations such as banks, insurance companies, and security companies to strengthen their international activities.

Although the use of the yen as a reserve currency has been increasing, the rule of the yen as an international currency is smaller than the roles of European currencies (in relation to the size of their respective economies).

For example, in terms of Euro-currency deposits, the yen lags considerably behind the German mark, and yen-dominated trade is extremely small. This indicates that the yen is a relative latecomer in major financial markets.

Several explanations exist for this lack of internationalization of the yen. Many commodities, including energy, are normally denominated in dollars. The yen also has not been very stable. Its value has flucuated widely since 1971. The fear that the Japanese monetary authorities might control financial flows as in the past also lessens the attractiveness of the yen for financial traders. Furthermore, the absence of an open and large short-term bond market (especially a government bill market), which is an essential condition for an international currency, also hinders wider use of the yen.

Negotiations between American and Japanese monetary authorities have been conducted with the intention of liberalizing and internationalizing Japanese financial markets and of ensuring that the yen reflects its underlying value more accurately. Since the mid-1970s, domestic pressure also has been growing for liberalization in the financial market.

Massive issues of Japanese government bonds, the relatively abundant financial position of the household and corporate sectors, which encourages the diversification of financial investment, and the enactment of a new foreign exchange and foreign trade control law in December 1980 have all been incentives for liberalization. In the future, liberalization and internationalization should advance even more rapidly. A 1984 U.S.-Japanese liberalization agreement should contribute to this development.

Another important force for liberalization should come into play when the government redeems the massive number of its bonds outstanding (issued since the mid-1970s). Although some redemption has been taking place since the late 1960s, it has been on a small scale.

The massive redemption of government bonds which began in 1984 means the sudden emergence of a de facto short-term bill market (Table 6). Both the emergence of the short-term government bill market and the internationalization of the financial market will further enhance the liberalization of interest rates. This should have a sizable impact on bank deposit rates. The structure of Japanese interest rates, which are based on the longer-term government bonds and the official discount rate, are now under examination and possibly could result in a substantial reshuffling of the financial institutions in Japan.

TABLE 6.—*Government bonds outstanding with a maturity of less than 1 year (actual and forecast), 1982–91*

[In trillion yen]

| At the end of fiscal year: | *Amount* |
|---|---|
| 1982 | 5.2 |
| 1983 | 6.2 |
| 1984 | 10.6 |
| 1985 | 12.8 |
| 1986 | 15.9 |
| 1987 | 15.2 |
| 1988 | 17.6 |
| 1989 | 17.7 |
| 1990 | 16.9 |
| 1991 | 20.3 |

Note: Japan's fiscal year ends on March 31. Amounts from 1985 are forecast.

Another important effect in financial markets of the massive redemption of government bonds is that the yen can be more internationalized. That is, the massive redemption may enlarge the open government-bill market. Currently, short-term government bills, which amount to 14 trillion yen outstanding, are actually accepted by the Bank of Japan at a lower interest rate.

A massive redemption may require the government to consider issuing a more open type of short-term bill in order to smooth out the process of redemption and to issue new longer-term bonds. Since the redemption amounted to more than 10 trillion yen (about $40 billion) in 1984, the possibility exists that the short-term government bill market will reach a size of 100 billion dollars in the near future.

Even though some time might be required for the market to reflect the "real value" of the yen, in the medium term the emergence of a large, short-term government bill market should provide more opportunities for the yen to play the role of an international currency and for its price to reflect its true underlying value. This also should provide more leeway for the effective use of monetary policy.

### C. FURTHER LIBERALIZATION OF THE DOMESTIC MARKET

Another area in which Japan can cooperate with the United States and other countries is in the further liberalization of the domestic market. As a consequence of past market-opening measures, which have been repeatedly implemented over the years and which include some unilateral measures, the Japanese market is becoming, de jure, one of the most liberalized in the world. Lowering tariff rates, the rationalization and simplification of testing procedures and standards, other measures to increase imports, and orderly marketing in exports indicate that Japan has made an unusual effort to open her market and to resolve trade disputes.

In spite of these arrangements, however, penetration of foreign goods in the Japanese market has been insufficient. This de facto closedness of the Japanese market is due to several reasons.

One of the reasons is that the yen has been relatively weak against the U.S. and European currencies. Two oil crises contributed to its undervaluation, and recently the strong dollar has reduced the competitiveness of imports and their penetration ratios.

Furthermore, the fierce competition between Japanese firms may result in a strong de facto non-tariff barrier for foreign entrepreneurs. The number of firms in major industries, for example, indicates that stronger competition exists among Japanese firms in the domestic economy than is typical in other advanced countries. There are, for example, six major iron and steel firms, nine automakers, and a host of electrical machinery and electronic product makers. This is a large number both in absolute terms and considering that Japan's economy is less than half the size of the United States'.

The limited amount of foreign investment in Japan is the other side of the coin explaining the small market shares accounted for by foreign firms. This implies that both more time and larger effort are needed for foreign firms to increase sales in the Japanese market.

It should be borne in mind, however, that in several areas, success has already been attained. International food manufacturing enterprises have been developing successfully in the Japanese market. Financial activities also have been and will continue to be successful. Furthermore, Japan has increased its imports of textile products from developing countries. Another area in which imports are increasing is basic material manufacturing products, such as iron and steel, chemicals, and several non-ferrous metals.

Still, further efforts will be needed both by the Japanese as well as foreign traders, in view of the slow rate of import penetration into the Japanese market.

## V. CONCLUSIONS: BILATERAL AND MULTILATERAL COOPERATION

Mention has been made of the effects of macroeconomic policy in both countries on the U.S.-Japanese bilateral relationship. One cannot, however, overlook the fact that most bilateral issues also have a multilateral dimension because of the leading economic position of the two countries. The U.S.-Japanese relationship is extremely important to stable growth in the world economy.

The world has been experiencing unusual and large-scale distortions since the early 1970s. This has been indicated by the oil crises, stagflation, currency unrest, and growing protectionism. Since the late 1970s, however, as changes have become more drastic and of more a structural nature, the world economy has been facing an even more difficult situation. The post-war international economic system has been under severe strain in the early 1980s.

After several years of strain and stagnation, including the recession in 1982, one can say the world economy is now overcoming several important deficiencies. The oil shortage is now a less acute issue because of remarkable progress in energy saving and switching away from oil, which have been enhanced by international cooperation. As for domestic economic issues, stagflation has disappeared in many industrialized countries, especially in the United States, although many countries are still suffering from budgetary deficits. Cooperation among the advanced countries should be continued in these key areas in the future.

The years 1985 and beyond can be good years and provide more opportunities for the world economy. Currently, U.S. growth has been accelerating, which has boosted business investment—a key factor for the recovery of the U.S. economy. Supported by strong consumer spending and a large increase in employment, the U.S. economy has been expanding rapidly. This buoyancy has stimulated the Japanese and European economies, and some developing countries (especially in Asian areas) have also increased their production. The cyclical upswing is now providing precious time to rectify the imbalances which have grown since the 1970s and to lead the world economy to a continuous and stable growth.

At the same time, however, imbalances can develop among countries to hinder them from realizing this kind of growth. Although Japan may follow the U.S. lead, though lagging behind somewhat, other countries such as some in Europe and Latin America, may not be able to overcome their economic difficulties even with the rapid expansion in the United States.

Such a disequilibrium can eventually strain the stable growth of the world economy. Some point out that the current improvement in the balance of payments in Latin American countries is due to a reduction of imports and to current tight policies for domestic demand, which cannot be carried out long. Furthermore, high interest rates may sometimes undermine improvements in trade accounts by increasing payments in capital accounts. For example, a 1-percent increase in international interest rates increases the annual interest payments of debtor countries by more than $3 billion.

Many commodity producing countries also have been severely hit by the sharp fall of commodity prices. Furthermore, Europe has been suffering from the reluctance of enterprises to invest in processes which increase labor requirements. This cannot prevent unemployment from growing even in the cyclical upswing of the economy.

To remedy these imbalances, the United States and Japan should increase their efforts to cooperate with each other. The United States should work to lower interest rates, which may result in a weaker dollar. Japan should make a greater effort to realize growth supported more by domestic demand, and, concurrently, to develop a way to make use of its high savings rate to stimulate the world economy. To this end, the promotion of industrial cooperation, increasing economic assistance, and the internationalization of domestic financial and product markets should be high on Japan's agenda.

For Europe, the rationalization and modernization of the manufacturing sectors are very important. The United States and Japan should cooperate with European countries during this process.

Another area where U.S.-Japanese cooperation is important is in the Pacific. Although cooperation should develop globally in many fields, a regional approach is more effective in some areas. Especially as the Pacific area has come to be bordered by dynamic countries, regional development can be encouraged by regional cooperation. This cooperation, however, should be open to the participation of countries in other areas.

In the 1960's, it was the active economic growth in the Atlantic that supported the growth of the world economy. Likewise, the Pacific area can pull the world economy in the 1980s and 1990s. Other countries both within and without the area can participate through an increasing degree of economic interdependence worldwide.

It goes without saying that Japan and the United States play key roles in this regard. However, it should be borne in mind that this will require a more open economy for Japan and the prevention of protectionsim by both countries.

# JAPAN: FOREIGN EXCHANGE POLICY

By McClellan A. Dubois

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Few issues have dominated U.S.-Japan relations for such an extended period of time as has the debate over the value of the yen. For almost a decade policymakers, business leaders and scholars have held a wide variety of views on Japanese foreign exchange policy and have argued these views emotionally. In 1976, for example, U.S. policymakers publicly criticized Japanese intervention in the foreign exchange market, predicting it would lead to renewed trade friction. in 1982, U.S. business leaders argued that Japan was holding the yen down to enhance its export competitiveness.[1]

## I. Dollar or Yen Problem

On this issue it is easy to slip into an argument over whether the yen is undervalued or the dollar is overvalued. By any measure the dollar increased in value relative to the major currencies between 1981 and mid-1984, and most experts point to U.S. interest rates as the primary cause.

Nonetheless, the fact that the debate over Japanese foreign exchange policy has raged for almost a decade—over several business cycles, wide swings in U.S. interest rates, and in good times and bad for the U.S. trade balance—suggests that factors other than U.S. interest rates have also been involved. Rather than debate the issue of high dollar or low yen this paper will focus on Japanese foreign exchange policy, particularly the institutions and policies that have had an impact on the yen's value over the past decade.

In that regard the paper uses terms such as "undervalued" that could be construed as pejorative or as assigning blame. That would be a mistake by the reader. Rather, such terms are used to describe an ordinal relationship between a currency price at a particular time and the currency's "true" value.

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[1] See Bergsten, C. Fred. The U.S.-Japan Economic Conflict. Foreign Affairs, Summer 1982. Yang, Tai-Hoon. The Yen-Dollar Accord, Japan Economic Journal, September 27, 1984, and October 2, 1984, for good review articles on the issue.

## II. THE YEN VALUE

Most observers agree that the yen has been misaligned for much of the past decade. Few, however, agree on a methodology to measure the degree. Much depends on the base period and the basket of currencies the yen is measured against. If, for example, you argue that currency values should over the long run reflect changes in comparative inflation rates and that a good base period would be 1975, when U.S. and Japanese bilateral and global trade was roughly in balance, then in late 1983 the yen should have traded at roughly 180 to the dollar instead of its actual level of 225.[2] Using a similar methodology but a different base period (1980–82 average) and a trade-weighted market basket of currencies, Morgan Guaranty Trust estimated in June 1984 that the yen was undervalued by several percentage points.[3]

Even without an agreed-upon methodology, trade trends and other evidence over the past decade tend to support the view that Japan's currency has been undervalued. Since 1979 Japan's share of global manufactured exports has increased in every year except 1982. Even the 1982 decline was not as steep as for some of Japan's competitors, although all nations faced the global recession and Japan practiced restraint in its shipments of steel, autos, and other products to key markets. Moreover, between 1979 and 1983 Japan far outpaced its major competitors in export volume growth. This suggests a steady or improving price competitiveness.

In 1983–84, when the yen traded in the 225–245 to the dollar range, Japanese exporters admitted that their goods were priced to sell in the 200–210 range. In a 1984 study done for the Japanese Ministry of Foreign Affairs, Japanese economists projected that the yen would have to reach 180 to the dollar before export growth would level off.[4]

*The yen/dollar exchange rate* [1]

[Yen/U.S. dollar]

| | |
|---|---|
| Annual average rate: | |
| 1975 | 296.8 |
| 1978 | 296.6 |
| 1977 | 268.5 |
| 1978 | 210.4 |
| 1979 | 219.1 |
| 1980 | 226.7 |
| 1981 | 220.5 |
| 1982 | 249.1 |
| 1983 | 237.5 |

[1] International Monetary Fund. International Financial Statistics.

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[2] Olmer, Lionel H. Testimony before House Foreign Affairs Committee, Subcommittee on Asia and Pacific Affairs, June 12, 1984.

[3] Morgan Guaranty Trust Company of New York. World Financial Markets, June 1984.

[4] Olmer, Testimony.

AVERAGE ANNUAL GROWTH IN EXPORT VOLUME: SELECTED INDUSTRIAL COUNTRIES [1]

[Percent]

| | 1976-78 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|
| United States | 5.1 | 11.3 | 6.8 | −3.0 | −10.2 | −6.5 |
| Japan | 10.4 | 0.2 | 17.1 | 10.1 | −2.4 | 8.6 |
| France | 7.2 | 10.1 | 2.1 | 2.9 | −2.9 | 3.7 |
| United Kingdom | 6.7 | 5.0 | 0.9 | −0.7 | 2.2 | 0.8 |
| West Germany | 6.9 | 7.1 | 4.1 | 5.3 | 2.2 | 0.4 |

[1] U.S. Central Intelligence Agency. Handbook of Economic Statistics 1984. CPAS 84-10002. Washington, D.C., September 1984.

## III. The Positions

The argument over the yen's value usually breaks down into two views. On one side are those who argue that the Japanese government has artificially rigged the yen to enhance the competitiveness of Japanese exports. On the other are those who believe the yen rate is determined by market forces—in recent years primarily U.S. interest rates—and, because only the market assigns value, the yen by definition cannot be undervalued. In most cases, however, people have staked out a position between these two extremes.[5]

One reason the issue is difficult to analyze is that policies, institutions, and regulations on both sides of the Pacific have changed radically in the past decade. Prior to 1980, for example, all international financial transactions by Japanese were prohibited or controlled unless the Japanese Ministry of Finance (MOF) or the Bank of Japan (BOJ) specifically approved. On December 1, 1980, a revision to the foreign-exchange and foreign-trade control law removed controls on international transactions unless specifically prohibited. The new law removed restrictions on holdings of foreign currency by Japanese residents. As Emery points out in his detailed study of Japan's money market, this period also saw numerous changes in Japan's domestic financial institutions.[6]

In terms of the balance of payments, the result of all of the changes was an enormous increase in international capital flows. According to official Japanese balance of payments statistics, gross, long-term capital movements jumped from $24 billion in 1980 to almost $40 billion in 1981 and continued to expand in 1982 and 1983. Much of this capital left Japan; net outflows totaled more than $40 billion in 1983. In 1983 alone more than $5.5 billion came to the United States, mainly in the form of securities purchases.

## IV. Tokyo's Intervention Policy

As the Japanese government eased its capital controls, official intervention policy also shifted. In the early 1970s, Tokyo reportedly used private bank accounts and hidden foreign exchange reserves to buy and sell dollars to influence the exchange rate. By the mid-1970s, however, Tokyo made less use of this clandestine intervention. Nonetheless, even with its current account surplus mounting, Tokyo intervened massively in 1976 in the foreign exchange market to slow, at least, the appreciation of the yen and, as a result, enhance Japan's competitiveness. Bergsten and other observers termed this policy one of Japan's "most serious policy errors of the entire postwar period." [7] This intervention was public knowledge. According to official balance of payments data, Tokyo's international foreign exchange reserves jumped from $16 billion in 1976 to more than $33 billion in 1978, mainly reflecting BOJ and MOF purchases of dollars to slow yen appreciation. During this period Tokyo's policy was a "pegged float." The MOF established a target range—usually about 1 percent wide—where the yen floated freely. If it appeared that pressure would move the yen more than 1 percent in a day, Tokyo would intervene. After several days, if pressure continued, the target range was adjusted up or down depending on the circumstance. There is, however, no evidence that Tokyo had a fixed rate in mind as it intervened. Rather, Japan's policy was one of "leaning against the wind." [8]

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[5] See U.S. Congress. House. Committee on Foreign Affairs. Subcommittee on Asian and Pacific Affairs. Hearings on U.S.-Japan Relations. 98th Cong., 2nd Sess., June 12, 1984, or Yang, Yen-Dollar Accord, for a review of the positions.

[6] Emery, Robert F. The Japanese Money Market. Lexington, Mass., Lexington, Books, 1984. 143 p.

Since the late 1970's, however, pressure from Washington and a growing realization that intervention could not on its own prevent changes in the yen value prompted Tokyo to adjust its policies. Tokyo has apparently abandoned or at least widened its view of a trading range for the yen; intervention now is used to maintain an orderly foreign exchange market by absorbing surges in demand usually in conjunction with another central bank.

In the 1980s, most intervention has been to slow yen depreciation, preventing a potential increase in Japan's competitive position. For their part, Japanese officials believe other countries, particularly the United States, should have a more aggressive international policy. In negotiations with the U.S. officials in 1983 and 1984, for example, MOF suggested that the U.S. Federal Reserve purchase yen-denominated Japanese government bonds directly from the Japanese government to strengthen the yen.[9]

## V. Forces at Play

Most experts agree that the critical factor putting downward pressure on the yen since roughly 1981 has been capital outflows from Japan. In 1981-83, Japan posted current account surpluses totalling $34.4 billion, but the basic balance—the current account minus long-term capital flows—was in the red by more than $6.5 billion. Preliminary data for 1984 suggests that this trend continued.

Experts also agree on what promoted this outflow—high U.S. real interest rates, institutional changes in the U.S. and Japanese money markets, instability in world money markets reflecting the LDC debt crisis, and GNP growth in Japan below historic norms.[10]

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[7] Bergsten, Economic Conflict, p. 1066.

[8] See Quirk, Peter J. Exchange Rate Policy in Japan: Leaning Against the Wind. IMF Staff Papers, November 1977 p. 642-64.

[9] See Sakakibara, Eisuke and Kondoh, Akira. Study on Internationalization of Tokyo's Money Markets. JCIF Policy Study Series No. 1. June 1984. p. 70.

[10] See U.S. Council of Economic Advisers. Economic Report of the President. Washington, U.S. Govt. Print. Off., 1984. p. 64-71.

Japanese investors, with newfound freedom resulting from the 1980 law, took advantage of high real interest rates in the United States. In real terms, U.S. interest rates averaged roughly 7.5 percent in 1981–83; Japanese rates, while high by historic standards, were only 6 percent. This was a radical shift from the pattern of the 1970s; in 1976–79, U.S. rates were negative while Japanese rates averaged about 3 percent.

JAPAN: BALANCE OF PAYMENTS SUMMARY [1]

[U.S. dollars in millions]

| Year | Current account balance | Long-term capital account | Basic balance |
|---|---|---|---|
| 1975 | 682 | 272 | 954 |
| 1976 | 3,680 | 984 | 2,696 |
| 1977 | 1,918 | −3,184 | 7,734 |
| 1978 | 16,534 | −12,389 | 4,145 |
| 1979 | −8,754 | −12,618 | −21,372 |
| 1980 | −10,746 | 2,394 | −8,352 |
| 1981 | 4,770 | −6,449 | −1,679 |
| 1982 | 6,850 | −14,969 | −8,119 |
| 1983 | 20,799 | −17,700 | 3,099 |

[1] Balance of Payments Monthly, April 1984, The Bank of Japan.

*Japan: Average annual growth in real gross national product* [1]

| | *Percent* |
|---|---|
| 1961–65 | 10.0 |
| 1966–70 | 11.2 |
| 1971–75 | 4.6 |
| 1976–78 | 5.2 |
| 1979 | 5.1 |
| 1980 | 4.9 |
| 1981 | 4.0 |
| 1982 | 3.2 |
| 1983 | 3.0 |

[1] U.S. Central Intelligence Agency, CIA Handbook of Economic Statistics 1984, CPAS 84-10002, September 1984.

This shift came at a time when Japanese financial institutions and companies found themselves flush with cash. Japanese growth had slowed substantially—averaging only about 3 percent in 1981–83, below the 5 percent rate of 1976–80 and well below Japan's post-war pace.

Although some evidence suggests that Japan's savings rate is edging down, it remains high by international standards. Slower growth, however, requires less capital investment. As a result, these institutions went looking for other places to put their cash; they focused on U.S. securities.

A surge in Japanese overseas direct investment also played a role. With limited prospects in Japan and increasing trade barriers abroad, Japanese companies have been looking for investment opportunities in foreign markets. According to Japanese balance of payments data, for example, outflows of direct investment averaged more than $4 billion annually in 1981–83, compared with about $2 billion in 1976–80.

Another factor has been investor concern over international instability. Traditionally, international investors shy away from the yen during times of uncertainty, perhaps reflecting Japan's dependence on imported raw materials and recently on export markets for growth. In the 1970s, the yen depreciated when oil prices jumped or when conflict flared in the Middle East. The yen also dropped several points during the Falklands crisis.

Developing-country debt problems also reduced demand for the yen. According to official IMF data, OPEC and a few LDCs were accumulating yen assets in the late 1970s; faced with declining oil revenues, the OPEC nations trimmed their demand in 1982 and 1983. MOF, which had been privately placing Japanese government bonds with a few Middle East countries, stopped their sales effort by 1982. Based on all of this evidence, it is clear that Tokyo's exchange rate policy over the past decade has not been to artificially rig the yen to maintain or enhance Japanese competitiveness. Rather, it has been a policy designed to maintain some order in the foreign exchange market and to insulate to the extent possible Japanese domestic monetary policy from outside influences. Most of the liberalization measures undertaken in 1976–83 were to increase Japanese access to foreign capital markets. Japan's market remained fairly closed and controlled. In particular, foreign access to yen denominated assets was limited and MOF either controlled or closely monitored use of the yen in international transactions by Japanese financial institutions. As Emery describes in detail, MOF also limited development of Tokyo's money market to keep tighter control on interest rates.[11]

The impact of this policy has been to retard demand for the yen internationally. As a result, the evidence suggests that, even if the interest rate differential had not existed, the yen would have still been undervalued for much of this period. As Tokyo liberalized, most of the actors involved were holding more yen than dollars and as a result shifted from yen to dollars. Japanese officials offered few if any incentives to buy yen. The number of yen-denominated instruments remained limited; Emery, for example, concluded that a major gap in Japan's money market is "the lack of an attractive and effective market for short-term government securities." He blames some of this problem on MOF's commitment to keep interest rates low to help the government hold down the cost of financing its debt.[12]

## VI. INTERNATIONAL DEMAND

There are numerous examples of the low level of demand for the yen as an international transaction currency. Japan accounts for 8 percent of world trade but only about 2 percent of world trade is denominated in yen. This share has increased over the past decade but remains well below levels of other major trading nations. In 1982, for example, Japan financed 34 percent of its trade in yen;

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[11] Sakakibara and Kondoh, Money Markets, p. 32–35, and Emery, Japanese Money Market, p. 121–130.

[12] Emery, Japanese Money Markets, p. 125.

West Germany (83 percent), France (63 percent) and Great Britain (76 percent) all used their home currencies for a greater share.[13]

The yen represents 13 percent of the IMF Special Drawing Rights but roughly 4 percent of official international foreign exchange reserves were in yen assets in 1982. In a recent study, Japanese experts pointed out that "to date, those foreign monetary authorities maintaining yen assets are confined to a handful of countries such as the OPEC and Asian countries, and internationalization of the yen as such has made little progress."

"Although West European monetary authorities have expressed deep interest in maintaining yen assets, it is true that the scarcity, limited nature or even nonexistence of such open markets as government short-term securities markets, and bankers' acceptance markets providing high-liquidity, short-term capital renders the investment of official reserves somewhat difficult." [14]

Private access to yen assets has faired better but is still below the level one would expect, given Japan's size and economic clout. In 1983, yen-denominated bonds accounted for 5.3 percent of all bonds floated outside of the United States; this was marginally above the 1982 level but still well below the share held by the Swiss franc or German mark. Japanese private financial insitutions have boosted yen-denominated international loans but yen loans are still a small minority of total international lending.[15]

## VII. Recent Developments

A number of factors in 1983 and 1984—including international pressure, lobbying by Japanese banks, and a growing awareness of the yen problem by Japan's political leadership—forced Tokyo to acknowledge that U.S. interest rates were not the only cause behind the yen's weakness and to accelerate its plans to open Japan's capital markets. In November 1983, the United States and Japan jointly announced that Tokyo would take further steps to allow "the yen to more fully reflect its underlying strength." To this end, the MOF and the U.S. Treasury agreed to establish a joint ad hoc group of financial authorities to monitor moves to internationalize the yen.[16]

The results of this working group were announced in May 1984. The working group focused on actions that would make the yen more available as a transaction or asset currency. Japan promised to promote development of a Euroyen market, expanded opportunities for non-residents to purchase yen-denominated assets such as certificates of deposit, and to allow foreign financial institutions to do business in Japan on an equal footing with Japanese institutions.[17]

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[13] Sakakibara and Kondoh, Money Markets, p. 70.

[14] Sakakibara and Kondoh, Money Markets, p. 56.

[15] Morgan Guaranty Trust Company of New York. World Financial Markets. January 1984.

[16] U.S. Treasury. Joint Press Announcement. November 10, 1983.

[17] See Sakakibara and Kondoh, Money Markets, for complete Working Group Report and interesting commentary from Japan's view. The U.S. side is in House, Subcommittee on Asia and Pacific Affairs, Hearings on U.S.-Japan Relations.

## VIII. THE IMPACT

While it is still too early to assess the impact of these changes on the yen/dollar rate, the accord clearly represents a new direction by Tokyo. It is now committed in writing to steps to open its capital market and allow the increased use of the yen as an international currency. Tokyo has lived up to actual commitments in the agreement. Restrictions on access to the Japanese bond market have been lifted, some barriers to the Euroyen market have been lowered, foreign banks have greater access to the Japanese money market and have established trust banking ventures, and international loans denominated in yen have increased.

It is less clear how fast Japan will move to deregulate its domestic financial market. One factor is that the MOF dominates the international side of Japan's capital market but must deal with other actors on the domestic side. The Ministry of Post and Telecommunications, for example, controls the postal savings system—the tax free accounts for individual Japanese savers. MPT is unlikely to agree quickly to decontrol rates on all savings accounts. Reflecting this, so far MOF has only committed to remove interest ceilings on large deposits in a few years.

MOF also will continue to evaluate the impact changes will have on their ability to finance the government debt. So far, they have resisted pressure to establish a treasury bill market or to allow market forces to freely determine rates on government bonds. In late 1984, however, MOF did ease some restrictions on the secondary market for government bonds by allowing a few U.S. banks to trade in already-issued government bonds.[18]

## CONCLUSION

Since the mid-1970s, Japanese foreign exchange policy has not been to "rig" the yen or to adjust the yen/dollar rate to enhance Japan's export competitiveness. On the other hand, it is clear that Tokyo has followed a conscious policy of insulating to the extent possible the Japanese economy from international financial pressures. The impact of this policy has been to keep demand for the yen well below what would be expected for a currency of a major economic power. As a result, while U.S. interest rates played a key role in keeping the yen undervalued over the past few years, Tokyo's policies clearly augmented the problem.

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[18] Japan Economic Journal, October 2, 1984, p. 3.

# ISSUES AND PROBLEMS IN U.S.-JAPAN ENERGY RELATIONS

By Katsutoshi Murakami, and Aoi Na[illegible]ashiro

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## I. SUMMARY

A remarkable feature of the development of the U.S.-Japan energy relationship in the postwar period has been the unprecedented strengthening of ties between the two countries on account of supplies of oil, coal, and nuclear energy.

As a result, the United States had gained considerable influence on the Japanese economy through its major international oil companies, while Japan had become what was considered by many to be excessively dependent on the United States or American oil companies for its energy supply. After the oil embargo and price increases by OPEC nations in the 1970's, however, the U.S.-Japan energy relationship underwent a significant change.

The gain of power by oil-producing nations led to a decline in power by major international oil companies. It also meant that American influence on Japan through its oil supply decreased. Consequently Japan's dependence on U.S. energy has been gradually decreasing in recent years. Most Japanese energy resources are still imported, and almost all the oil comes from abroad, especially the Middle East. Japan has not yet overcome the vulnerability of its energy supply structure. As long as Japan continues to pursue the aim of economic prosperity, this vulnerability is probably inevitable.

Within the framework of the problem of U.S.-Japan trade imbalance, the United States is pressuring Japan to increase imports of American energy resources. Japanese steel and electric power industries, however, are reacting with strong opposition, arguing that the prices of these resources are higher than those elsewhere in international markets. Moreover, the expansion of U.S.-Japan energy trade is hindered by the U.S. export restrictions on oil and natural gas.

Although energy trade can be another cause of U.S.-Japan trade friction, it also can provide an opportunity for increased cooperation. U.S. energy resources, in some respects, have an important influence on the energy security of Japan and other Asian countries. For example, because of Alaska's location and the lower transportation costs to East Asia, it appears to be economically more feasible for its resources to be consumed in East Asia rather than on the East Coast of the United States.

If U.S.-Japan cooperation in this context can be freed from political constraints, and if the discussion is guided by sound economic principles, it "will mean more jobs for Americans and greater security for both our countries," as President Reagan declared during his visit to Japan in 1983.

The energy policies of each country, individually or cooperatively executed, will play an important role in the future bilateral relationship. Energy security for both nations could lead to sounder economic growth and greater stability throughout the world. Both Japan and the United States must sincerely work on outstanding issues and contribute to world stability, since these countries play a major role in the world economy.

## II. INTRODUCTION

As friction between Japan and the United States over the rising trade imbalance in favor of Japan has intensified, an increase in exports of U.S. energy resources such as oil, coal, and liquified natural gas (LNG) to Japan has come to the fore as one effective means of solving the problem. At the second session of the Japan-U.S. Energy Working Group in July 1984, and also during President Reagan's visit to Japan the previous year, the problem was discussed comprehensively. At that session, citing concrete figures, the United States firmly insisted that Japan increase its imports of Alaskan crude oil, liquified natural gas (LNG), U.S. Eastern (metallurgical) coal, and Western (steam) coal.

Japan was, at one time, interested in developing and importing Alaskan crude oil and U.S. coal, a point to which we shall return later. As seen by the Japanese side, what was remarkable in this case, however, was that the United States showed a positive attitude toward expanding exports of these resources. Moreover, the United States intensely pressured Japan to increase all energy imports, rather than one individual resource, presenting in other words, an "energy package".[1]

The Japanese private sector concerned (the oil, electric power, gas and steel industries) however, reacted negatively, arguing that they were facing declining domestic demand for energy and already had too many import contracts for energy resources.

Particular objections to the "energy package" included such difficult matters as the development and import of Alaskan LNG (which requires huge capital costs) and the import of U.S. coal

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[1] Editorial: Conditions for the Expansion of Japan-U.S. Energy Trade. The Nihon Keizai Shimbun, July 1, 1983.

(which is costly by international standards). The Japanese side argued that it would be too difficult to reach an agreement in such a short period of time, and that the U.S. requirement that all three energy resource issues be resolved simultaneously was impracticable.[2]

The reason for the American proposal lay in the United States' expectation that they will have a surplus of energy resources in the 1990's, and their desire to become directly involved in the energy security of the Pacific Basin, including Japan and South Korea. Moreover, in the short-term, coal-producing regions have been suffering a recession and declining employment and the presidential election was close at hand. In any case, the Japanese side was particularly perplexed by the American proposition for Japan to purchase costly U.S. coal.

Major Japanese coal users, such as the steel, electric power, and cement industries, have huge stockpiles of coal and are busy negotiating with Australia and China to cut back import contracts. The U.S. proposal to increase urgently exports of energy resources to Japan was, therefore, rather untimely. It also ran counter to the Reagan administration's policy of emphasizing the importance of free market mechanisms.

The energy problem is related fundamentally to national economic security and is an issue in which both Japan and the United States take much interest. It could be a source of tension between the two countries, but if handled properly, could also promote friendly cooperation. It was brought up with the intention of correcting the Japan-U.S. trade imbalance. Unfortunately, the basic relationship between the two nations with regard to energy resources was not thoroughly discussed, and political motives took priority over economic factors.

The "Joint Policy Statement on Japan-U.S. Energy Cooperation" was announced on November 11, 1983, when President Reagan visited Japan. Its six articles consist largely of abstract items for examination and encouragement and seem to lack a clear focus. In 1984, however, there has been concrete follow-up discussions, and the issue will certainly emerge as a major cause of dispute in various contexts. The negotiations were expected to reach a turning point in the autumn during the presidential elections.

We have noted that U.S. energy resources have an important influence on the energy security of Asian countries such as Japan and South Korea. Because of Alaska's location, it appears to be economically more feasible for its resources to be consumed in East Asia, rather than on the East Coast of the U.S.

If U.S.-Japan energy cooperation in this context can be freed from political restraints and discussion guided by sound economic principles, it "will mean more jobs for Americans and greater security for both our countries", as President Reagan was quoted as saying during his visit to Japan. It will also enhance our partnership and further strengthen the ties between the U.S. and Japan.

The following is a general survey of Japan-U.S. energy relations and an exposition of some key points in the discussion.

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[2] The Nihon Keizai Shimbun, October 11, 1983.

## III. SOME CHARACTERISTIC FEATURES OF JAPAN'S ENERGY POLICY AND U.S.-JAPAN RELATIONS

In the past thirty years, Japan successfully modernized its industries and achieved a high rate of economic growth, owing to the comparatively stable international situation and abundant, inexpensive oil imports. These years were a rare period in history when "the jungle was miraculously peaceful".[3] Japan was fortunate to have attained unprecedented economic prosperity in such circumstances. However, that this prosperity was almost "under the sword of Damocles" [4] was clearly shown during the two oil crises in the 1970s.

In the course of its rapid economic growth after the war, Japan was heavily dependent on imports for its energy needs. Almost all of its oil supply came from abroad. Its energy supply structure was distinctively vulnerable compared to that of other industrialized nations. The plentiful flow of low-priced oil from the Middle East played a particularly important role. Since such resources have poured into the Japanese energy market since 1960, the economy has become firmly established as oil-dependent.

The oil crises, which began with the oil embargo by OPEC countries in the early 1970's, and shook the world twice, led Japan through an era of economic dislocation and trial. Low cost had been more important than energy security to Japan, which had opted for dependence on imported energy resources. After the oil crises, however, it has now realized that this had been a grave error.

Japan's industries had been characterized by cost preferences which neglected security and by pragmatism without strategic thought. This choice may have been inevitable, but it has also been almost fatal for Japan, since it has few natural resources and had to start from scratch after the war. Japanese prosperity had been achieved at the expense of an increasing risk of excessive energy dependence. Japanese vulnerability to energy supply disruptions was necessitated by, and is now an irreversible consequence of, its high economic growth and energy policy.

Nevertheless, Japan's pragmatic way of thinking without a strategic plan permits some flexibility vis-a-vis the international situation and changing energy conditions. It has resulted in an effective economic management policy for Japan.

Quick adaptation to new circumstances is one of the specific characteristics of the Japanese economy. Thanks to this, Japan has attained unprecedented prosperity, though always threatened by the aforementioned risk. But there is no guarantee that the country will continue to be so lucky in the future.

In the post-World War II development of Japanese energy policy, the ties between the United States and Japan were strengthened by oil, coal, and atomic energy. The first step was taken immediately after the war. Under the administration of the American occupation authorities, the domestic oil market was thrown open to international oil companies of American and British origin. At the same time the domestic oil industry was revived and developed under their influence.

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[3] Naohiro Amaya. Nippon Co. Ltd.—Choices Left. PHP Research Institute, Tokyo, 1982. p. 51.
[4] Ibid. p. 32.

The second step was the Japan-U.S. atomic energy agreements of 1955, which meant the advent of nuclear power (or atomic power for peaceful use). Since that time, the United States has been a source of light-water nuclear reactor technology as well as enriched uranium. In return, U.S. inspection and safeguard observance was imposed on Japan. These restrictions became more severe when the problem of nuclear non-proliferation arose and has hindered the progress of the atomic industry, especially the establishment of nuclear fuel recycling.

The third step was taken in the 1960's when American-based international oil companies became the main suppliers of oil (which composed the largest part of Japan's energy resources). The United States gained a great influence upon Japanese industry and the economy through the major international U.S. oil companies, while Japan became what was considered by many to be excessively dependent on the United States and American oil companies for its energy resources. After the OPEC nations took action in the 1970's, this situation began to change significantly.

The international oil companies which supplied 70 percent of Japan's oil needs, and had a great influence on its economy, started to decline in the face of the OPEC nations' rise to prominence. Consequently, direct deals with oil-producing countries replaced deals with international oil companies. And as the influence of the oil companies declined, the trade imbalance between the United States and Japan began to increase.

Although both Japan and the United States are big energy-consuming countries, the United States has abundant resources and active energy-related enterprises. There is, thus, a large difference between the energy policies of the two countries. Another aspect of this problem is that discussion of energy resources frequently takes place in the special context of the United States' national security. Considering the fact that the United States is a cosmopolitan state that has assumed major responsibility for maintaining world order and stability, its energy policy should be positioned and developed as part of a world rather than of a national strategy.

Japan and the United States have completely different views of these principles and problems. When they discuss common issues and try to seek cooperation, therefore, unnecessary friction can arise. This friction might be increased by a perception gap and occasional misunderstanding.

However, it is undeniable that the United States and Japan must sincerely work on outstanding issues and contribute to world stability, since both play a major role in the world economy. Both countries have a strong common interest in the Asia-Pacific Basin. As Milton Klein declared, the key to taking such responsibility is energy. The energy policies of each country promises to play an important role in future relationships, and energy security between the two nations could lead to sound economic growth and stability throughout the world.[5]

## IV. Some Urgent Problems

In addition to the problem of expanding exports of U.S. energy resources to Japan, there is also the long-standing question of the development of nuclear power plants. We will now consider some problems of bilateral and multilateral cooperation in the field of research and development of new energy resources. The discussion, however, for reasons of space will be limited to aspects of the U.S.-Japan energy trade.

### A. ALASKAN OIL

When the oil field was discovered in the North Slope in 1968, most Japanese showed absolutely no interest. The oil crisis of 1973 changed all of that. Japan was forced to find suppliers of crude oil other than the Middle East for reasons of energy security.

The issue of Alaskan oil exports to Japan has arisen at conferences between U.S. and Japanese governments since the completion of the Trans-Alaskan Pipeline System and was one of the important items on the agenda of the U.S.-Japan summit meeting between former Prime Minister Fukuda and former President Carter in 1978. But in spite of Japan's expectations and repeated requests, the United States has never permitted Alaskan oil to be exported to Japan.

The main reason [6] for this may be that the United States still imports 4 million barrels of oil a day. The country was already the biggest oil-importing country at the outbreak of the oil crisis, and successive administrations have been working on an energy independence policy designed to reduce imports of oil and increase domestic oil production. Exports of U.S. oil were banned in principle, by the amendments to the Export Administration Act of 1977 and 1979, and by other legislation. This ban on oil exports means that the "outcome bodes well for national defense, for energy security, and for the domestic consumer." [7]

In addition to these basic reasons, there is strong opposition among domestic shipping industries and the seamen's unions engaged in Alaskan oil transportation, since they argue that the removal of the ban could reduce domestic cargo and lead to unemployment among seamen. American investors fear that crude oil transported by way of the Trans-Panama Pipeline would decrease if Alaskan oil were exported to Japan. Still further opposition comes from environmentalists who insist on the protection of nature in Alaska.

The Reagan Administration began to reconsider the continuation of the ban on exports as a result of the heightening controversy over U.S. energy development strategy. The State of Alaska clearly favors exports to Japan. For the past year many representatives from Alaska have come to Japan, and have requested that Japan increase imports of energy resources. They have said that the removal of the ban on exports would increase revenues for Alaska and the Federal Government, promote the exploration and development of oil, "strengthen the security with such allied nations as Japan and South Korea, and contribute to the expansion of Asian markets." [8]

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[5] Energy Policy Committee of the Atlantic Council and Japan-U.S. Energy Relationships Committee of the Committee for Energy Policy Promotion (Japan). U.S. Energy Policy and U.S. Foreign Policy in the 1980's. (Japanese Edition). Tokyo, Denryoku Shinpo Sha, 1981. P. 56.

[6] As for the pros and cons of exporting Alaskan oil to Japan in the U.S. side, see, U.S. General Accounting Office. Pros and Cons of Exporting Alaskan North Slope Oil, GAO/NSIAD-83-69.

[7] Energy Report: Maritime Industry Winning the Debate Over Exporting Alaska Oil to Japan. National Journal, October 1, 1983. P. 1997.

How would removal of these restrictions effect Japan? First, exports of Alaskan oil would reduce the U.S. trade deficit with Japan at the rate of about one billion dollars a year for every 100,000 barrels per day exported (even though the overall U.S. trade deficit would not change appreciably). Second, since Japan still relies heavily on Middle Eastern oil, Alaskan oil would provide additional national energy security through diversification of the oil supply. Third, transportation of Alaskan oil by foreign flag ships would cost only 60 cents per barrel, while Middle East oil costs one dollar per barrel.

Yet, there is continuing anxiety about importing Alaskan oil on the Japanese side. First of all, Japan fears it might be forced to commit itself to a program of development and importation of Alaskan natural gas, or costly U.S. coal, along with imports of Alaskan oil. Secondly, the Japanese oil industry opposes the argument that Alaskan oil imports will strengthen national security, arguing that the U.S. might stop oil deliveries should an oil crisis occur. Furthermore, they are fearful of being obligated to see U.S. flag tankers.

Nevertheless, in September 1983, with President Reagan's visit to Japan near at hand, the Japanese Oil Industry Survey Mission on Alaskan Oil, sponsored by the Petroleum Association of Japan, was dispatched, and plans for the import of Alaskan oil gradually began to take shape. The Alaska State Government told the mission that it could supply 70,000 barrels of crude oil per day. The mission replied that Japan would consider purchasing about 50,000 barrels per day on a commercial basis, if a steady supply were guaranteed. The Federal Government was reportedly satisifed [9] with the mission's positive reaction.

The situation, thus, went forward, and export restrictions might have been removed by amendments to the Export Administration Act and other related legislation. If so, the remaining problems would have dealt only with market conditions (prices, quality certification, destinations, and various charges). But the debate in Congress took longer than expected, and the preparation for removal of the ban was not made in time for President Reagan's visit in 1983.

At the third session of the Japan-U.S. Energy Working Group held on February 21, 1984, the U.S. side told Japan that it would be difficult to remove the ban on exports of Alaskan oil for the time being.[10] The Export Administration Act was to expire in September, 1983, but it was temporarily extended until the end of February, 1984. Thus it seems likely that this act will be extended again.

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[8] The Mainichi Shimbun (evening edition), February 21, 1984.

[9] Petroleum Association of Japan. The Possibility of Alaskan Oil Export to Japan. Report of Japanese Oil Industry Survey Mission on Alaskan Oil, September 14-22, 1983, pp. 3-4.

[10] The Nihon Keizai Shimbun, February 23, 1984.

For the present, it seems that the removal of the ban on the export of Alaskan oil has come to a deadlock. Yet, depending on the progress of negotiations over purchases of coal and LNG, there is still some hope on the part of Japan, that at least part of the ban will be removed in the near future.

### B. ALASKAN LNG

Twenty six trillion cubic feet of natural gas (4.6 billion barrels in oil equivalent, as estimated reserves) are buried underground in the North Slope oil field in the Arctic. Two projects are now proceeding—the Alaska Natural Gas Transportation System (ANGTS) and the Trans-Alaska Gas Pipeline System (TAGS), for the development and use of this gas.

The ANGTS was authorized in 1977 and involves the construction of a gas pipeline from the North Slope by way of Canada to California and Illinois. Yet only one-third of this pipeline has so far been constructed. Its completion is uncertain because of marketing and financing difficulties. An alternative plan to use the gas within the State of Alaska is far from feasible. Some experts have become pessimistic, saying there is nothing to be done except reinject the gas into the oil field.[11]

Under the TAGS project natural gas would be transported to a south Alaskan port by pipeline, be liquefied, and shipped by LNG tankers to the U.S. West Coast or to East Asian countries such as Japan, South Korea, and Taiwan. This project is being promoted mainly by the State Government of Alaska. It requires sizable funds for the construction, not only of pipeline and liquification facilities, but also of new LNG tankers. It is estimated that 14.5 million tons of LNG could be exported per year by 1992.[12] The U.S. side has requested that Japan participate in this project and purchase the resulting LNG.

Japan currently imports 20 million tons of LNG from Indonesia, Brunei, and several other countries. It is also planning the development and import of LNG with Australia, Canada, and the Soviet Union. However, further markets for LNG are at present so uncertain that Japanese industry is trying to stop or reduce production at domestic gas fields, while endeavoring to use up the gas imported under contracts.

Furthermore, since import contracts for LNG include "take-or-pay" clauses, and the price of LNG is set relative to crude oil (in terms of calorific value), these contracts are rather inflexible with regard to supply and cost. This inflexibility hinders the importation of gas and makes it difficult for Japan to commit itself immediately to the project of developing Alaskan LNG.

In the long-term, Alaskan LNG will no doubt contribute to Japan's energy security. With this in view, the Japanese Ministry of International Trade and Industry (MITI) and related industries intend to continue negotiations with the U.S. side over the possibility of developing and importing Alaskan LNG. Their intention was confirmed in the Joint Policy Statement on Japan-U.S. Energy Cooperation during President Reagan's visit to Japan. On the basis of this affirmation, three banks, including the Industrial Bank of Japan, Ltd. and six trading firms, decided in May, 1984, to participate in the feasibility study of Alaskan LNG.[13]

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[11] U.S. General Accounting Office. Issues Facing the Future Use of Alaskan North Slope Natural Gas. GAO/RCED-83-102. Washington, 1983. p. 111.

[12] Trans-Alaska Gas System. Economics of An Alternative For North Slope Gas. Report by the Governor's Economic Committee. Alaska, January, 1983. p. 4.

In the United States, however, there are differing views about exports of Alaskan energy resources to foreign markets. Some people insist that Alaskan energy resources should be reserved for the United States, while others argue that Alsakan resources should be developed for the sake of the region, and be exported if it is profitable to do so. If the U.S. side wishes to promote the Alaskan project, a compromise must be made between these groups.

## C. U.S. COAL

U.S. coal is the key to the solution of outstanding issues in U.S.-Japan energy relations. We shall now consider separately the problems of Eastern (metallurgical) coal, Western (steam) coal, and Alaskan (sub-bituminous) coal.

### *1. Eastern (metallurgical) coal*

The Japan-U.S. coal trade began anew in 1947 when Japan imported 60,000 tons of metallurgical coal from the United States. At that time, Japan's domestic coal industry could provide the local economy with enough steam coal, while metallurgical coal used in the steel industry had to be imported from abroad.

As a result of Japan's economic growth, the demand for metallurgical coal increased rapidly, and Japan has imported an enormous amount of metallurgical coal every year from Australia, the United States, Canada and other countries—including 25.6 million tons of U.S. Eastern coal in 1974.[14] During the past several years, however, coal imports have decreased because of a slump in the domestic steel industry. Such imports fell to 15 million tons in fiscal year 1983, and are expected to further decrease to 10 million tons in 1984.

In July 1983 the American side insisted that the share of U.S. Eastern coal in Japanese imports of metallurgical coal should be increased to the previous level, and maintained there. It further demanded that Japan should state how much it is going to import in the futue, as well as increase its purchases. The Japanese side replied as follows:

Imports of coal from Australia and Canada under long-term contracts were to be cut because of the depressed state of domestic steel manufacturing. The imports of U.S. Eastern coal, especially those by spot market contracts, were cut. Moreover, the CIF (including shipping costs) price of Eastern coal was ten dollars per ton higher than the international standard. Therefore, Japan would endeavor to stabilize imports of Eastern coal only on the assumption that the price of U.S. coal would fall.

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[13] The Nihon Keizai Shimbun, May 12, 1984.

[14] Japan Ministry of International Trade and Industry. Yearbook of Coal, Petroleum and Coke Statistics. Tokyo, 1982. pp. 238–239.

The United States and Japan did not reach an agreement on this matter even after President Reagan's visit. The problem is related to employment opportunities in the Eastern coal fields, and general political conditions in the United States, particularly elections, so it likely will attract much attention in the near future.

### *2. Western (steam) coal*

The movement to use steam coal started in Japan only after the oil crisis. Under those circumstances, the Japanese government set itself the goal of importing 53.5 million tons of steam coal from abroad in 1990, and has been working hard to attain it. This trend was accelerated by the second oil crisis in 1979 following the Iranian Revolution, after which Japan took great interest in the development and import of steam coal produced in the U.S. Western States, particularly Utah and Colorado.

Meanwhile, the U.S. side supported by the Western coal-producing states, has been trying to export steam coal to Japan. After several negotiations through diplomatic and private channels, the first U.S.-Japan Coal Conference was held in August, 1980, by businessmen from both countries. This conference has been held annually ever since.

The Japan Coal Development Co., Ltd. was established by ten Japanese power companies. It carried out a feasibility study on importing large amounts of Western coal in cooperation with the Western Governors' Policy Office, and it published a report in January, 1982. The New Energy Development Organization of Japan also did a feasibility study of a coal chain system and infrastructure based on imports of Western coal.

In spite of these developments, Japanese imports of Western coal have leveled off at 1.5 million tons per year.[15] Japan's eagerness to import steam coal quickly cooled off not only because domestic coal-users such as the power and cement industries, reduced their production, but also because of the hike in coal prices and recent oil glut.

Since the first session of the Japan-U.S. Energy Working Group, the U.S. side has insisted that Japan should purchase a large amount of Western coal by long-term contract, and invest in the construction of transportation and dock facilities. At that time Japan was negotiating with Australia and China to cut back imports of coal by long-term contract. Also referring to the high price of U.S. Western coal, the Japanese side reportedly said that it was difficult to import plentiful coal unless it was profitable and on a commercial basis.[16] In October 1983 with President Reagan's visit near at hand, it was reported that forty-one U.S. Representatives sent a letter to the President warning him that they would consider the possibility of imposing restrictions on Japanese goods unless Japan substantially increased the purchase of U.S. coal.[17]

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[15] Yearbook of Coal Statistics, pp. 238-239.

[16] The Nihon Keizai Shimbun, April 18, 1983.

[17] The Nihon Keizai Shimbun (evening edition) October 18, 1983.

Active negotiations have continued since then. Yet the Joint Policy Statement at the time of President Reagan's 1983 visit only confirmed general principles. Early this year the Pecten Coal Company requested Japan to participate in projected coal development in the States of Wyoming and Montana. But the Japanese business sector has not shown much interest, arguing that the initial burden would be too heavy.[18]

### *3. Alaskan (sub-bituminous) coal*

Sub-bituminous coal is produced in mining areas near Cook Bay in the southern region of the State of Alaska. Recoverable reserves are estimated to be over 6.2 billion tons. The Diamond Shamrock Company has some mining areas near a shipping port and has been actively trying to export its coal to Japan. It is planning to begin coal production in 1988 and to export 15 million tons of coal per year to Japan, South Korea, and Taiwan.[19] Samples have already been sent to Japan, and a demonstration test was done beginning in January 1984.

Diamond Shamrock Company says that exports of coal to Japan are profitable, because:

a. There are efficient transportation systems from the inland mines to shipping ports, as well as well-equipped port and harbor facilities.

b. U.S. coal is inexpensive enough to compete with that from other countries because of low transportation costs.

These claims, however, were rejected by Japanese electric power companies [20] for the following reasons:

a. Sub-bituminous coal has fewer calories per unit.

b. Sub-bituminous coal contains so much moisture that transportation costs are high.

c. The demand for coal is declining.

MITI has, nevertheless, asked Electric Power Development Co., Ltd. to do a feasibility study of Alaskan coal on the assumption that Japan will import the coal.

These are some controversial points concerning U.S. coal. At the third session of the Japan-U.S. Energy Working Group held February 1984, it was decided that a coal mission sponsored by Japanese steel and electric power industries would be sent to the United States in May 1985. The follow-up of the Joint Policy Statement of Japan-U.S. Energy Cooperation has already begun.

## V. CONCLUSION

The United States has repeatedly informed Japan that it is Japan's most reliable long-term supplier of energy.[21] But in view of the fact that energy problems are related to U.S. special national security, and that many restrictions will follow, one cannot be optimistic about an expansion of the Japan-U.S. energy trade. Japan cannot overlook the fact that the United States acts in accord with the Monroe Doctrine [22] and pursues its own national interests with regard to oil and nuclear energy.

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[18] The Nikkan Kogyo Shimbun, February 15, 1984.

[19] Beluga Coal Company and Diamond Alaska Coal Company. Overview of Beluga Coal Development Projects. January, 1982.

[20] Nikkei Sangyo Shimbun. January 25, 1984.

[21] "Press Remarks", by President Reagan during his visit to Japan, November 10, 1983.

From Japan's point of view, what is needed for the expansion and improvement of U.S.-Japan energy relations is for the United States to remove its political constraints and demonstrate an attitude more economically sound and equitable toward friendly nations in the Pacific Basin. As the first step, the ban on exports of U.S. oil and natural gas should be removed. If conflicting views are reconciled, and various conditions are altered in the United States, Japan will be able to contribute to the expansion and improvement of U.S.-Japan energy relations.

The Japanese side also should try to establish sound U.S.-Japan relations with a long-term perspective, without relying exclusively on cost criteria. Even though several proposed projects to develop exports of U.S. coal and Alaskan LNG are unlikely to be carried out at the present, it is possible that these projects may become feasible in the near future, since the energy situation is always changing. What is important is the manner in which the United States and Japan, with such a possibility in mind, will improve their bilateral cooperation and so contribute to international stability.

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[22] See footnote No. 1.

# JAPAN'S INTERNATIONAL TECHNOLOGY TRANSFERS

By Martha Caldwell Harris

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## I. SUMMARY

The paper first reviews general trends in Japanese technology exports. Technology transfers are difficult to measure, but the technological balance of payments is the most commonly used indicator. Japan is becoming a significant technology exporter, shown in this data on new contracts. The United States is by far Japan's most important overall technology trading partner, but Japanese technology exports to Asia are double the value of those to the United States. According to technological balance of payments data, Japan's major net technology-exporting sectors are construction and steel, mature industries which have already reached their peak in terms of comparative advantage in international trade. High technology sectors such as the computer industry, in contrast, are exporting as well as importing technology of significant value, but imports outweigh exports. Many uncertainties remain, however, concerning the motivations for and nature of Japan's international technology transfers.

Next, the paper reviews Japan's official policies concerning technology transfer, noting a gradual shift during the past decade from stress on monitoring and regulating technology inflows to stress on the importance of free international technology exchange. There

are, however, significant constraints on Japanese technology exports which stem from political, economic and cultural factors. Despite the existence of a general consensus supporting technology transfer, disagreements among groups and organizations involved in policymaking are apparent, particularly when the issues at stake involve opening Japan's technology developing institutions and markets to foreigners.

Finally, the paper identifies issues associated with Japanese technology transfers, many already points of friction in U.S.-Japan relatins. These include: (1) different approaches to protecting innovation; (2) an imbalance in flows of technical information and personnel between the two countries; (3) difficulties in evaluating long-term costs and benefits of bilateral science and technology cooperation; (4) sensitive issues surrounding military technology cooperation; (5) competition between the U.S. and Japan for sales of technology and products in LDC markets; (6) structural barriers impeding foreign access to Japanese technology; (7) differences in government resources devoted to formulating and implementing technology transfer policies.

The level of technology exchange between the United States and Japan is increasing, but this trend of growing interdependence could be constrained in the future by a number of limiting factors. In order to promote mutually beneficial aspects of technology exchange, Japan must move quickly and decisively to promote access by foreigners to technology-producing institutions and markets, and the United States must invest additional resources in monitoring and acquiring Japanese technology.

## II. Introduction

Japan's reputation as an importer and adapter of technology is giving way to one of developer and exporter of technology. This evolution in Japan's role as a technological leader presents a number of issues, many of them associated with perceived obstacles hindering free access to Japan's technology, which are likely to be increasingly central to U.S.-Japan relations.

The purposes of this paper are to characterize the extent and nature of Japan's international technology transfers, to identify major themes in Japanese policies affecting international technology transfers, and to highlight policy issues surrounding Japanese technology transfers that present challenges to policymakers in the United States and in Japan during the decade ahead.

## III. Japan's Technology Exports

### A. TECHNOLOGY TRANSFER: MEANING AND MEASUREMENT

Technology, or the application of scientific and technical knowledge to the production of goods and services, is normally transferred across national borders through commercial transactions which often include a number of other components. Technology transfer involves an exchange between at least two parties, usually involving payment, whereby the recipient attains a higher capability to use technology in producing goods and services. Whether one adopts a narrow definition of technology transfer (proprietary process technology owned by a firm for its own production activities[1]) or a broader one (including technical services and equipment), there are difficult problems in analyzing its extent and nature.

Technology transfer is such a multifaceted process that it is virtually impossible to measure it precisely. Technology flows internationally in sales of equipment, technical services (including feasibility studies and training programs), and patents and licenses, as well as through exchanges between technical personnel in different countries and other mechanisms which involve no recorded sales.

Japan's technological balance of payments, the most commonly used indicator of international technology flows, records payments and receipts for industrial property rights, as well as technical services. In cases where no payment is made (such as in some instances of cross licensing), however, there is no record in the technological balance of payments. Furthermore, technology transfer can also occur through foreign investment and joint R&D programs, additional avenues not fully reflected in the technological balance of payments. In short, the best available indicators do not provide fully accurate measurements of technology transfer.

### B. TECHNOLOGICAL TRADE BALANCE

The general trend in Japan's technological balance of payments has been toward increasing receipts, as compared to payments, particularly since 1968. At that time the Japanese government began to relax its extensive controls on technology transfer, stimulating increased imports as well as exports of technology.[2] The volume of technology exports rose from about $11 million in 1972 to $742 million in 1982, while imports rose from $483 to $1,136 million during the period. As a result, the ratio of exports to imports rose from 20 percent in 1971 to 67 percent in 1981.[3] By FY 1983, Japan was exporting technology valued at more than $1 billion, and importing technology valued at $1.3 billion.[4] These data reflect payments on contracts arranged in previous years, and are less useful as indicators of emerging trends than information on new contracts. Since

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[1] Bernadette Madeuf, International Technology Transfers and International Technology Payments: Definitions Measurement and Firms' Behavior, Research Policy, vol. 13, no. 3, June 1984, pp. 125–40. See also Office of Technology Assessment, Technology Transfer to the Middle East, Washington, 1984, U.S. Govt. Print. Off., chapter 2, for a discussion of problems associated with analysis of international technology transfers.

[2] Merton J. Peck and Akira Goto, Technology and Economic Growth: The Case of Japan, Research Policy 10 (1981), p. 225.

[3] These data were collected by the Prime Minister's Office, Bureau of Statistics. The time series is reported in Kagaku Gijutsucho (Science and Technology Agency), Kagaku Gijutsu Hakusho (Science and Technology White Paper), (Tokyo: STA, 1984), p. 159. The yen figures were converted to dollar values at the following rates: $1 = 249 yen (1972); $1 = 249 yen (1982). Note that these data are collected in an annual survey of firms and research organizations. See also Sorifu, Tokeikyoku (Prime Minister's Office, Statistics Bureau), Kagaku Gijutsu Kenkyu Chosa Hokoku (Report on the Survey of Research and Development, 1983), p. 42. The Bank of Japan (BOJ) also collects data on technology trade (based on actual foreign exchange receipts and payments). The BOJ data show a rise in technology exports from $58 million in 1972 to $585 million in 1982, and a rise in imports from $460 million to $1835 million during the same period. Technology imports are considerably higher in the BOJ data because the Prime Minister's survey does not include technology import data for research institutions, universities or colleges. BOJ technology export data are lower than those collected by the Prime Minister's Office because they do not include technology exports associated with plant exports. The Prime Minister's Survey data are used in tables and charts that follow because they include disaggregations by industrial sector and new contracts.

[4] Under a recent reorganization the Management and Coordination Agency (Somucho) now carries out the survey of research and development.

1975 Japan's exports have exceeded imports for such new programs and contracts. In 1981, for example, new contracts for technology exports were valued at $314 million while payments for imports were $111 million.[5] Japan's technology exports are, however, developed by its exports of manufactured goods.

The United States is by far Japan's major technology trading partner. In 1982, Japan's technology exports to the United States were valued at more than $142 million, the largest value of technology exports to any single country and about 19 percent of the country's total technology exports. Japan's imports from the United States during the same year were valued at $751 million, or about 66% of all technology imports.[6] Japan still ranks far behind the United States as a technology exporter, as indicated by the fact that Japan's receipts for exported technology were valued at only about 7 percent those of the United States during 1981.[7]

Japan's technology exports to countries in Asia were double the value of those to the United States. After the United States, Taiwan, Singapore and in recent years China have been major purchasers of Japanese technology (valued at more than $50 million in each case). Japan's technology exports are strongly directed toward the developing world, as indicated by the fact that technology exports to six countries (Taiwan, Singapore, Indonesia, Malaysia, South Korea, and Brazil) made up more than one third of the dollar value of Japan's total technology exports in 1982. Japan is an important supplier of technology to Asian countries such as South Korea, Malaysia and Thailand.

TABLE 1.—JAPAN'S TECHNOLOGY TRADE IN SELECTED INDUSTRIES, 1981

[In million U.S. dollars]

| | A. Technology exports | B. Technology imports | Rate increase percent [1] | A/B |
|---|---|---|---|---|
| All industries | 778 (315) | [2] 1,153(111) | 9.7 | 0.67 |
| Construction | 99 (97) | 13 (7) | 12.0 | 7.6 |
| Steel | 109 (57) | 66 (34) | +37.5 | 1.6 |
| Automobile | 57 (6) | 48 (2) | +51.5 | 1.1 |
| Chemical | 142 (37) | 165 (16) | −0.2 | 0.86 |
| Communication/computers | 83 (12) | 194 (15) | +23.9 | 0.42 |

[1] Rate of increase in value of receipts for technology exports over previous year.
[2] Numbers in parentheses indicate annual value of new contracts only. Note converted from yen at $1 = 225 yen.

Source: Sorifu, Kagaku Gijutsu Kenkyu Chosa Hokoku, 1982, pp. 35-36.

There is striking variation in the role of various Japanese industrial sectors in technology exports. Table 1 shows the technology trade balances of some of Japan's major industrial sectors. The construction engineering and steel industries have in recent years been exporting much more technology than they have been importing. In the case of the former, payments were only 13 percent the value of receipts for sales of technology. Each of these sectors has exported technology valued at approximately $100 million. In the case of the construction engineering sector, about three-quarters of these exports went to developing countries in Asia, while about one-half of the technology exported by the steel industry (in value terms) went to North America and Europe.

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[5] Sorifu Tokeikyoku (Prime Minister's Office, Statistic Bureau), Kagaku Gijutsu Kenkyu Chosa Hokoku (Report on the Survey of Research and Development, 1982), (Tokyo: Prime Minister's Office, 1983), p. 34. In 1982, however, Japan's technology exports (new contracts) declined, while imports (particularly in the software field) rose sharply.

[6] Calculated at $1 = 249 yen. Sorifu, ibid., p. 44.

[7] The lack of attention to technology trade in the United States is illustrated by the fact that data published by the U.S. government on technology trade are less detailed than those regularly published by the Japanese government. In contrast to the situation in Japan, U.S. exports of technology exceeded imports by a factor of 9 in 1981.

In contrast to the strong net export position of the construction and steel industries, technology imports by Japan's chemical engineering and automobile manufacturing sectors are large in comparison to exports. The chemical industry has been Japan's largest technology trading industry, with exports valued at more than $142 million, and imports $165 million in 1981. The chemical engineering sector is so large that there is considerable variation within it: subsectors such as synthetic fiber manufacturing are net exporters while the pharmaceutical subsector is a net importer of technology. While the chemical and automobile industries are both strong importers as well as exporters of technology, a greater proportion of chemical technology exports go to industrial countries, while in the latter case more than half of the exports are purchased by buyers in Asian developing countries.

The communications equipment and computer manufacturing industry has been a major technology importer. In 1981 imports, primarily from North America, were about 2.3 times as large as exports of technology. Technology exports in this sector were fairly evenly divided between industrial and developing countries. The electrical machine and appliance manufacturing industry was also a major net technology importer.

To summarize, the data indicate a pattern of substantial technology exports by mature sectors such as steel and construction, where the motivation may be to reduce costs by expanding production overseas in low cost countries, or simply to earn revenues needed to cushion slower or even declining production at home. The technology export positions of the steel and computer industries are strikingly different. In computers, where Japan is said to be gaining comparative advantage, the pattern is one of rapidly growing imports of technology coupled with significant but much smaller exports which are flowing to developed as well as developing countries.

While no authoritative information is available to support broad generalizations about the motivations of firms transferring technology, it appears that Japanese firms may be incorporating technology exports as a central part of their worldwide business strategies. Mitsubishi Heavy Industries was, according to a survey conducted by the Nihon Keizai Shimbun, the firm which received the largest income from sales of technology overseas in 1980. This income was derived primarily from consultation fees associated with large plant construction efforts overseas.[8] In another example, Mitsubishi Motors has formed a joint venture with a Malaysian firm which involves extensive transfer of production technologies needed to manufacture a new "people's car" specifically designed for the local market.[9]

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[8] Five steelmakers ranked among Japan's top 25 technology exporting firms. See Japan Economic Journal, vol. 19, no. 961, June 30, 1981, p. 3.

## C. R&D AND TECHNOLOGY TRANSFER

Japanese government and business have committed themselves to domestically develop technology, and the associated research programs may expand Japan's ability to innovate and eventually to transfer technology abroad.

Japan's total corporate R&D spending remains well below that of the United States, but expenditures in Japan doubled during the five year period 1979–84, a rate of increase well in excess of that in the United States. Surveys carried out in Japan and in the United States indicated that in FY 1983, 800 U.S. firms spent about $39 billion on R&D, in comparison to $12 billion by 580 firms in Japan. Japan's corporate R&D is heavily concentrated in the electronics, automobile and chemical industries, as table 2 shows. Thus, while some portion of internally-funded corporate R&D in Japan may support defense-related projects, most of it is directed toward technological development and application in civilian industries.[10]

TABLE 2.—R&D IN SELECTED INDUSTRIAL SECTORS, 1981

[Percent of total, rate of increase over previous year]

| | Percent of total | Rate of increase |
|---|---|---|
| All industries | 100.0 | 15.5 |
| Construction | 2.0 | 3.7 |
| Steel | 4.7 | 15.4 |
| Chemical | 17.0 | 10.6 |
| Communications/computer | 18.3 | 23.9 |
| Automobile | 14.4 | 24.7 |

Source: Sorifu, Kagaku Gijutsu Kenkyu Chosa Hokoku, 1982, p. 30.

Industrial sectors such as construction and steel that have been strong net technology exporters (see table 1) are not today Japan's largest investors in R&D. In contrast, the telecommunications and electronics sector (which is a net importer) provides a large and very rapidly growing share of the R&D total. In Japan, nine of the ten largest corporate R&D spenders in a recent poll by the Nihon Keizai Shimbun were electronics or automobile manufactures.[11] The drug manufacturing industry has shown the highest increases in R&D investment as a percentage of sales, running 5.85 percent in 1981. Thus, the drug manufacturing sector is one of the most dynamic in terms of both internal technology development, as well as in technology imports. Industries like drug manufacturing and computers are strong net technology importers, but they are also investing comparatively large shares of their revenues in technology development.

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[9] See Mutually Beneficial Approaches Sought for Industrial Cooperation, Japan Economic Journal, September 24, 1984, p. 7.

[10] Japan's corporate research and development statistics, such as those published by the Prime Minister's Office, do not include a break-out for defense-related R and D.

[11] See U.S. Corporate R&D Spending Continues to Outstrip Japanese Funding, JEI Report, No. 27 B, p. 3, for a summary of corporate R&D surveys in Japan and the United States.

Japanese firms have rapidly increased their patent holdings, and the number of applications made by Japanese firms is high in comparison to U.S. firms.[12] While many experts agree that the number of patents is not a good basis for comparing innovation in the United States and Japan, there were more than twice as many patent applications filed in Japan than in the United States in 1982, and almost as many patents (50,601) were granted in Japan as in the United States.[13]

In Japan, 100 firms made over half of the applications for patents in 1982, and ten firms made up 27 percent of the total. For the past decade, Japanese electronics firms such as Toshiba, Hitachi, Mitsubishi Denki, and Matsushita have made the largest numbers of patent applications and are the largest patent holders in Japan. In Japan a few large firms (primarily in electronics, chemicals, and automobiles) are the major sources of innovations that are patented and the major holders of such industrial propety rights.[14]

## D. TECHNOLOGY TRANSFER AND FOREIGN INVESTMENT

Foreign investment is a major mechanism for technology transfer worldwide. In contrast to the pattern of earlier years, Japan has become a major foreign investor and now ranks among countries such as the United States, Britain and West Germany which maintain the largest cumulative direct foreign investments. By March, 1984 the Ministry of Finance reported Japanese cumulative foreign investments totalling about $61 billion, with $16.5 billion in the United States. By 1982, Japanese investment in the United States surpassed that of either West Germany or France

Japan's desire to avoid trade friction by establishing manufacturing facilities in the United States, as well as the country's requirements for food and raw materials, are among the major reasons for the increased investments in the United States. In their United States investments, Japanese firms have stressed sectors where they are building or already have technological strength (such as electronics and automobile manufacturing plants). Manufacturing investments, still considerably behind those in the trade and finance area, include plants that are models of productivity and quality production. In some celebrated cases (such as Matsushita's takeover of Quasar Electronics in the mid-1970s, or the more recent acquisition by Nippon Kokkan of equity in National Steel) Japanese firms have brought advanced production technology to revive ailing United States facilities.

Increasingly, the desire to buy or sell technology may be a factor motivating foreign invesments, including the joint venture between Toyota and General Motors to produce subcompact cars in California. Unfortuntely, the data on foreign investment are not adequate to gauge the actual level of technology transfer accompaning specific transactions. In fact, sometimes the partners involved are not certain in advance just how much technology transfer is likely to result.[15] In addition, new Japanese investments in the United States are primarily wholly owned subsidiaries, which may indicate the reluctance of firms to transfer technology. Nevertheless, technology acquisition undoubtedly remains a factor in some foreign investments. Conversely, the desire to acquire Japanese technology appears to underlie recent French moves to encourage Japanese investment as a way to upgrade technological capability in some industrial sectors.[16]

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[12] See Japanese Patent Office, Patent Administration in Japan Tokyo, Japanese Patent Office, 1948), p. 11. The high rate of patent application in Japan does not necessarily indicate a higher rate of industrial innovation. Japanese firms encourage employees to file patents as a means of stimulating competition, an approach different from that of U.S. firms. Some experts claim that 1 U.S. patent is equivalent to 7 Japanese.

[13] See World Intellectual Property Organization, industrial Property Statistics, 1982. Publication A. Geneva, WIPO, 1983).

[14] In the United States 100 firms made 27 percent of the patent applications in 1982, and 10 firms made 7.3 percent of the total. See Tokkyocho (Patent Office), Tokkyo Daikuni Nihon no Shutsugan Kozo (The Structure of Patent Application in Japan), Tokyo, Patent Office, January 1984. p. 11.

It should be noted, however, that growing Japanese investment overseas in high technology sectors does not necessarily indicate that significant technology exports are taking place. Where the production facilities are devoted primarily to components production and where research efforts remain concentrated in Japan, the extent of technology transfer from Japan to the host country may actually be quite limited. In many instances, such Japanese investments are motivated by the desire to acquire foreign technology.

United States firms are also seeking to increase their investment positions in Japan, not only to expand their shares in Japan's market but also to gain access to Japanese technology. In 1983, there were 639 cases of United States investment in Japan, valued at $519 million. United States high technology firms such as Xidex (a floppy disc manufacturer) are establishing wholly-owned subsidiaries in Japan, while others seeking partners in R&D (IBM, Merck) have used joint ventures, cross licensing and other arrangements. The concentration of United States investments in Japan's high technology sectors such as electronics, machine tools, and pharmaceuticals suggests that technology acquisition may be a motivating factor.[17]

Japanese firms have been major investors in Asian developing countries, and cumulative investments in South Korea (for example) far exceed those of United States firms. Likewise, Japan has been a major source of technology imports to South Korea, and these imports have apparently often been tied to additional agreements to import products and services from the Japanese firm.[18] Some have argued that United States investment and licensing in South Korea have involved more technologically sophisticated projects than those of Japan. While some see this as evidence of Japan's reluctance to transfer high technology, others see it as indicating that Japan's transfers have been more "appropropriate" to the countries of the region.[19] Still others might argue that the Koreans would simply prefer to team up with United States firms in an effort to build their technological capability.

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[15] This is the situation with respect to New United Motor, the GM-Toyota joint venture. GM expects to learn from Toyota about Japanese manufacturing and management techniques, while the Japanese partner looks forward to learning about US labor and parts suppliers. Both partners will contribute technology and know-how. (Information provided by New United Motor, September, 1984.)

[16] See Marsh, David. Paris Welcomes Japan's "Trojan Horses," Financial Times (London), August 21, 1984. p. 4.

[17] See Licensing Lure: Western Firms Use Technology as Wedge to Enter Japan Market, Asian Wall Street Journal. September 29, 1980, for a report treating Japanese concerns about expanding foreign investments in their country. Generally speaking, United States firms transfer more technology to their subsidiaries in Europe than to those in Japan. See NSF, International Science and Technology, January, 1984. p. 29.

[18] Becker, Dana M. and Carrie J. Hunter. A Commission of United States and Japanese Direct Foreign Investment—Two Case Studies, Masters Thesis, submitted to the Alfred P. Sloan School of Management, MIT, June 1984.

In their worldwide investments, Japanese investors have recently shifted away from light manufacturing and low technology industries toward electric and electronic equipment manufacturing, chemicals and tourism. This indicates that United States and Japanese firms are more and more direct competitors in Asian markets for technology sales and investment, and that the Asian buyers are interested in more advanced technologies.[20]

### E. JAPANESE TECHNICAL MANPOWER ABROAD

Technology transfer occurs on a person-to-person basis, and growing numbers of Japanese scientists, engineers and technical personnel now travel abroad for professional activities. During 1980 there were more than 110,000 Japanese in the United States, including 48,000 nonimmigrants.[21] In 1981-1982 Japan ranked fifth as a country of origin for foreign students in the United States, with more than 14,000 or about 4.3 percent of the total.[22]

While information is not available concerning the numbers of technical personnel who annually visit the United States from Japan on professional business, among the 38,500 nonstudent nonimmigrants from Japan to the United States in 1980 there were many such individuals. Japan's trading companies alone dispatched almost 6,000 Japanese overseas in 1980, 1,688 to the United States alone.[23] Japanese business and government delegations have visited U.S. government agencies in great numbers, and there are said to be many Japanese researchers working in U.S. government labs.[24]

Japan also sends many experts and volunteers to developing countries. In 1982, for example, the OECD reported that there were more than 11,000 technical cooperation personnel (experts and volunteers) from Japan in developing countries. This number far exceeded those from all other OECD nations polled, except the United States which had 14,400 working overseas.[25] Japan, however, accepts only a tiny number of students from the Asian countries. Where there were 16,500 Asian students in the United States in 1979, there were only 650 in Japan.[26]

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[19] Kim Linsu. Technology Transfer and R and D in Korea: National Policies and the United States—Korea Link, paper presented at the Conference on National Policies for Technology Transfer: The United States Link, Makaha, Hawaii, October 8, 1984.

[20] The trade implications of these trends are complex. Experts in the United States worry that unless United States firms can make greater inroads in Asian investments, imports from the region are likely to come increasingly from Japanese rather than United States firms. See Stokes, Bruce. United States Lags Behind Japan in Competition over Investing in East Asian Production, National Journal, July 7, 1984, p. 1300-1304. Japan has not greatly yielded internal markets to manufactured imports from the region. See Yasukichi Yasuba, Trade and Investment Between Japan and East and Southeast Asia. Paper presented at the Wilson Center, June 2, 1984.

[21] See Beikoku e no Kagakusha, Gijutsusha Imin. (Immigration of Scientists and Technicians to the United States), Jetro Machinery News (January, 1981), second in series, p. 43.

[22] Institute for International Education, Open Doors: 1981/82 (Report on International Educational Exchange), p. 21.

[23] Katsumi Shimada. The Shosha. Sangyo Nenpo. Tokyo, Research Institute of the National Economy, in Keizai Koho Center, Japan: An International Comparison, 1981. p. 31.

[24] See Commentary: Dr. Bodo Bartocha on Bilateral Scientific Cooperation, 1984, p. 9.

[25] OECD, Development Cooperation (Paris: OECD, 1983), p. 205.

Undoubtedly, a primary object of Japanese technical and business visits to the United States and Western Europe has been to acquire technology. At the same time, Japanese overseas missions are more and more focusing on Japanese foreign investment and technology transfer opportunities, and the capabilities they have developed over the years in monitoring overseas technology developments could help them to identify markets for Japanese technology exports.

### F. SECTORAL VARIATIONS

Taking an overview of these trends in technology exports and related activities, we can see substantial variation in the positions of various industrial sectors. Generalizations about the positions of various sectors as technology exporters, it should be remembered, are based on technological trade data, which provides only a limited basis for assessment, for reasons discussed earlier.

The construction industry is a major technology exporter, primarily to developing countries, but not a significant overseas investor or R&D supporter. In contrast, technology exports by the steel industry (also a net technology exporter) are associated more with overseas investments. In addition, while steel manufacturers have in recent years provided about 4.7 percent of corporate Japanese R&D (substantial, but still below the 27 percent contributed by the electric machinery industry), their research expenditures have continued to rise at respectable levels. Table 3 indicates that the steel industry exemplifies one type of industrial technology trader—a mature industry which is a strong net technology and product exporter.

TABLE 3.—TECHNOLOGY TRADE AND RELATED TRENDS IN SELECTED INDUSTRIES, 1981

| | Technology trade | Product/ services trade | R&D | Foreign investments |
|---|---|---|---|---|
| Construction | + + + | + + | | |
| Steel | + + | + + | + | + |
| Automobile | + | + + | + + | + |
| Electric machinery | | + + + | + + + | + |
| Chemicals | | | + + | + |

Note: Technology trade indicates net technology exports/imports. The chemical industry is the largest exporter of technology (valued at $142 million in 1981), but it is a net importer (imports valued at $165). The Prod/Ser Trade column indicates net exports. It includes plant exports (valued at $12 billion) for the construction industry. R&D indicates the percentage of total Japanese corporate R&D provided by the particular sector.

Sources: Tables 1 and 2, Ministry of Finance for Product/Services export and foreign investment data.

The electric machinery industry (particularly the computer and telecommunications equipment subsector) is in a strikingly different position in technology trade. This industry is a major net importer of technology, and at the same time a major product exporter, R&D investor and a participant in foreign investment. The comuter industry subsector is building up comparative advantage. In this dynamic, high technology industry, technology is being exported, but imports are currently almost double the level of exports. With R&D investments currently at an unusually high level, the computer industry is positioning itself to become a major technology exporter in the future.

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[26] Tatsuo Fujimura, et. al., Technology Transfer, A Report of the Task Force on Technology Transfer and Foreign Investment, Pacific Economic Cooperation Council, 1983.

The automobile industry is in some respects similar to the electric machinery industry, but this industry has a surplus in technology exports over imports, and a very strong but not preeminent R&D position. Overall, it appears from these trends that the automobile industry is at a somewhat later stage in terms of product cycles and technology development than is the computer industry.

These categorizations should be treated cautiously, as the case of chemical industry illustrates. The industry's position as revealed in aggregate data is somewhat unclear: it is a net technology importer, but also Japan's largest technology trading industry. In the chemical sector product exports and imports are more or less in balance, and R&D investments are comparatively high.

These trends make more sense when subsectors of the chemical industry are examined. The drug/pharmaceutical subsector is a net importer of technology, while the synthetic fiber subsector is a net exporter. The drug manufacturing industry registered the highest R&D investments as a percentage of sales of any industry, and it was among the largest signers of new technology trade contracts (both export and import). The chemical industry includes a wide disparity of subsectors—some, like the drug manufacturing industry, are increasingly dynamic technology traders, while others like the synthetic fiber industry are more mature, strong net technology exporters (with imports actually falling).

To summarize, Japanese industrial sectors today investing most in R&D as a percentage of sales (or total corporate R&D) are net importers of technology, as revealed by technological balance of payments data which reflect current receipts for past as well as new contracts. These sectors and firms are investing in R&D and can be expected to become increasingly important exporters of technology in the future.

### G. UNANSWERED QUESTIONS

Beyond these generalizations, there are many areas of uncertainty concerning Japan's international technology transfers. The recent upsurge in Japanese foreign investment, for example, indicates that this channel is increasingly important, particularly in technology exchange with the United States. Similarly, the fact that Japanese firms are registering large numbers of patents indicates their interest in building resources useful in negotiating technology exchange agreements.[27] The large numbers of Japanese traveling abroad, to the United States in particular, suggest the importance of informal channels for technology transfer.[28] It is, however, unclear whether movements of technical personnel result in net inflows or outflows of technology to Japan.

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[27] Ken Hattori, former Japanese patent examiner, explains that Japanese firms see patents as the foundation for talking (rather than litigating) with competitors. Hence, the tremendous rise in patent and utility model applications (460,000 in 1983) indicates their importance in industrial development and competition.

[28] William F. Finan, The Exchange of Semiconductor Technology between Japan and the United States, in Cecil H. Uyehara, ed., U.S.-Japan Technological Exchange Symposium (Washington: University of America Press, 1982), p. 64. This article shows that patents (rather than know-how licenses) were a major channel for technology importation by this Japanese industry.

Nor do the data make it clear how much proprietary technology has actually been transferred. The fact that industries such as steel and construction are the major exporters of technology suggest that what has been transferred is in large part standardized production technology needed for large industrial development projects in LDCs, and technology needed to refurbish plants in the industrial countries. On the other hand, industries such as computers and pharmaceuticals which are buying and selling technology extensively in the United States and Western Europe may well be providing new, cutting-edge technologies, but it is impossible to estimate precisely the actual extent of net proprietary, advanced technology outflow from Japan.[29]

At a more general level, important questions remain about the motivations of Japanese firms involved in technology transfer. Technology transfer has often been seen as a dependent variable, the result of firm strategies aimed at reducing costs, through establishment of overseas production.[30] These considerations may well be pivotal for some Japanese firms transferring technology to developing countries, but the need to avoid trade friction and the desire for access to foreign technology may also be important in other cases. It would be necessary to examine in more detail the technology transfer transactions of specific firms in order to answer these questions; the aggregate data now collected by the U.S. and Japanese governments does not provide sufficient basis for resolving them.

Despite these uncertainties, policymakers in Japan have developed policies which have important effects on technology transfers. In years past, through foreign exchange and foreign investment controls, the Japanese government acted as doorkeeper, regulating the inward flow of technology to Japan and ensuring that foreign firms with more advanced technology did not drive Japanese firms out of the market. Today, however, many of the ostensible controls have been relinquished and official policies of the government have shifted toward "internationalization" and "technology cooperation." The next section discusses this shift in policy, identifying some of the major actors.

## IV. The Policy Context in Japan

Shifts in Japanese perspectives on technology transfer reflect the importance of economic factors in formulations of "security." In responding to the challenge from the West one hundred years ago, Japan's leaders encouraged acquisition of foreign technology in order to build a strong economy and nation capable of defending itself.

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[29] See U.S. Office of Technology Assessment. Commercial Biotechnology: An International Analysis. Washington, Govt. Print. Off., 1984. p. 454.

[30] For a discussion of rival hypotheses, see Louis T. Wells, J., Economic Man and Engineering Man, in Robert Stobaugh and Louis T. Wells, Jr., eds., Technology Crossing Borders: The Choice, Transfer and Management of International Technology Flows. Boston, Harvard Business School Press, 1984. pp. 47-68.

In the postwar period, with a "peace constitution" (which permits armed forces only for self defense) and comparative lack of natural resources, Japanese leaders embraced economic development as a central aim. Obtaining technology from the United States and other "advanced industrial nations" was viewed as critical to ensuring economic security. Sheltered by the U.S. security treaty, Japanese public and private leaders devoted themselves to promoting national security, defined largely in terms of economic growth and stable energy supplies.

During the post World War II period and up until the early 1970s when Japan's foreign exchange and investment practices were greatly liberalized, Japanese firms were primarily importers of technology, much of it from the United States. Between 1950 and 1980 Japanese firms entered into more than 30,000 licensing and technology-importing agreements, for which they paid an estimated $10 billion.[31] It has been said that in the 1960s one third of Japanese industry was dependent upon foreign technology.[32]

During this early period, the Ministry of International Trade and Industry (MITI) reviewed and licensed technology imports. Under the Foreign Exchange and Foreign Trade Control Law of 1950, MITI officials prepared lists of desired technology and in some cases, such as the introduction of the basic oxygen furnace, alerted industry officials about foreign technology that could be useful.[33] With the government acting as a doorkeeper controlling technology and capital importation, Japanese firms accepted foreign equity participation as a way to acquire foreign technology.

By 1970, the situation had changed dramatically. Under pressure from abroad, Japan began the process of opening its economy to foreign investment and imports, and this had important implications for technology trade. Japan's stress on export of technology coincided with mounting resentment abroad over Japan's product export drive.[34] "Internationalization" and indigenous technology development are now central themes of Japan's policies.

Perhaps the most important factor behind this policy shift is the desire of Japan's leaders to avoid trade frictions with United States and other major trading partners. In light of strong domestic U.S. opposition to import penetration, Japanese leaders have stressed investment in the United States. Japanese leaders—including those in MITI and the private sector—seek to maintain free markets in an era when protectionism is rising abroad and during which many of Japan's ostensible barriers to imports are being dismantled under pressure from the United States in particular.

As Naohiro Amaya, Special Advisor to MITI, puts it: "* * * efforts should be made to consolidate the circumstances where free competition among high-tech companies is maintained and private companies are fully rewarded for their efforts. Japan and the

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[31] See Abegglen, James. U.S. Japan Technological Exchange in Retrospect, 1946. 1981, in Cecil Uyehara, ed., Technological Exchange: The U.S.-Japanese (Washington, D.C.: University of America Press, 1982).

[32] Layton, Duane W. Japan and the Introduction of Foreign Technology: A Blueprint for Less Developed Countries? Stanford International Law Journal, Spring, 1982. p. 173.

[33] Lynn, H. Leonard. How Japan Innovates: A Comparison with the U.S. in the Case of Oxygen steelmaking. Boulder, Westview, 1982. p. 54.

[34] Ozawa, Terutomo. Japan's Technological Challenge to the West, 1950-74: Motivation and Accomplishment. Cambridge, MIT Press, 1974. p. 92.

United States have taken an initiative in opening up markets for high-technology, such as joint slashing of customs duties on semiconductors. * * * Both countries should further jointly push such efforts to remove the smoldering protectionist move." [35] Free trade, technology exchange, and cross-investment are seen as important elements of a policy approach needed to counter protectionism abroad.

In order to promote these goals, Japan has supported international cooperation in high technology at international meetings (such as the economic summit conferences), and through bilateral talks such as the Japan-U.S. High Technology Working Group. These discussions have resulted in some steps, such as reduction of tariffs on high technology items, exchange of views on government policies, and proposals for cooperation in specific fields. Japanese leaders see these steps as necessary not only for reducing market barriers to trade, but also for invigorating technology development beneficial to all countries.[36]

While the desire to avoid trade friction has been a key stimulus for technology transfer, other important factors include the desire of Japan's leaders to ensure continuing access to technology developed abroad and their determination to contribute importantly to technology development. Significantly, technology development and transfer are trends consistent with MITI's strategy of promoting knowledge-intensive industries in Japan. Technology thus lies at the heart of Japan's domestic industrial policy as well as its international trade strategy, and both reinforce the need to ensure free exchange. Unlike the situation in the United States, Japanese labor has not been a major lobby against technology exportation. This is due in large part to the Japanese employment system and to union organizations which are strongly company-centered. There may be less fear that technology exports will lead to job loss at home largely because unemployment has not been a major problem or issue in Japan.

There are, however, a number of factors constraining Japanese technology exports. Japan's reluctance to export weapons and its status as a member of the CoCom system (whereby Western nations control exports to Soviet bloc countries) set limits on certain types of technology exports. While the Nakasone government has endorsed cooperation with the United States in military technology development, the potential for domestic Japanese political opposition to it remains a concern among the leadership.

In Japan (as elsewhere) private firms are naturally reluctant to transfer proprietary technology when it can be exploited without transfer. The principle of free trade in technology has been embraced at an official level, but Japanese firms have in some instances been hesitant to transfer cutting edge technologies, particularly to developing countries likely to become direct competitors. The "boomerang" effect has been much feared in Japan, and these fears lie behind the hesitant response of Japanese firms to South

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[35] Remarks by Naohiro Amaya, Special Advisor to MITI, presented at meeting on Japan and the U.S.: Cooperating with High Tech, San Francisco, March 13-14, 1984.

[36] See Seichi Ishizaka, former STA Director. Remarks prepared for meeting, ibid.

Korea's request for participation in the expansion of its steel industry.[37]

There are, in addition, cultural and other factors which constrain certain aspects of Japanese technology transfers. While there are growing numbers of Japanese professionals overseas, they have often lived in enclaves and interacted primarily with each other. Similarly, Japanese business practices as well as government regulations governing procurement and standards present obstacles to transfer of Japanese technology to foreign partners in Japan. The difficulty of the Japanese language is a block to foreign scientists and technicians who might wish to interact with their Japanese counterparts in a laboratory or engineering setting. Finally and not surprisingly, bilateral technological cooperation efforts have at times been constrained by Japanese government budgetary concerns.

These constraints notwithstanding, the official policy climate in Japan is favorable to technology exchange, and there is greater consensus on this throughout the policymaking community than is the case in the United States. The Japanese government, for example, offers preferential tax treatment to exporters of technology and technical services.[38] There is no central directorate of technology transfer in Japan, and there are certainly differences in perspective within the government, but the general predisposition is to support transfers, particularly those that involve standardized production technologies.

MITI remains at the center of policymaking important to international technology transfer, but it is not a large agency when compared to the U.S. Department of Commerce, nor do its programs in most cases involve large amounts of government funding. On the other hand, MITI has succeeded in building momentum for technology development through a number of mechanisms. These include a system of prestigious advisory committees with industry representation, industrial R&D programs which are often carried out through semipublic organizations, and promotion of Japanese participation in overseas development projects. Through its Agency for Industrial Science and Technology (AIST), MITI supports R&D efforts in high technology sectors such as the information industry. On August 10, 1984 MITI proposed a series of new tax incentives to spur private R&D. Foreign firms with research capability in Japan (such as IBM Japan and Texas Instruments Japan) are eligible to participate in government-sponsored research on the fifth generation computer, and the Japan Development Bank has provided financing for the latter firm to expand its semiconductor production in Chiba prefecture.[39] MITI also proposed a new law to promote industrial technology development. At the same time, MITI is the central architect of Japan's overseas trade strategy. In June, 1984, for example, MITI announced plans to promote technology transfer to LDCs in engineering fields. Using flexible financing and insurance, the program is designed to ease trade frictions with six targeted countries.[40] MITI handles export licenses and export insurance, and has been the major proponent of worldwide market development for Japanese firms.

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[37] Japenese steelmakers raised strong objections to participating in South Korea's planned expansion of its Pohang steel complex. The Japan Steel Association asked MITI to institute restrictions on imports of steel from South Korea, Brazil and Taiwan. After foreign firms indicated their willingness to participate in the project, Japanese steel firms agreed to license some technology, but only through existing arrangements or Japanese plant export contracts. The steelmakers insisted that they are "not bound" to export their technology to developing countries.

[38] A 28% tax deduction (on income) is available to firms exporting technology and know-how overseas; a 16% deduction is available for firms exporting consulting services, with the proviso that such exports not exceed 40% of the firm's revenues. See Kagaku Gijutsucho (Science and Technology Agency), Kazaku Gijutsu Hakusho (Science and Technology White Paper, 1982), p. 350.

But while MITI remains the focal point for policy affecting international technology transfer, many other agencies are involved in science and technology policymaking.[41] The Science and Technology Agency (STA) has used its R&D budget, which is larger than MITI's, to promote nuclear energy and space research. The Ministry of Post and Telecommunication has responsibility for telecommunications technology and services. While the Patent Office is under MITI's jurisdiction, the Ministry of Education has charge over copyrights and research in universities. The ministries of Health and Welfare, Transport, Construction, and Agriculture, Forestry and Foods also support applied research and development in their respective fields.

A wide array of councils and semi-public organizations provide advice as well as implement policies designed to promote technology development within Japan. The Industrial Technology Council, for example, advises MITI on Japan's R&D system. Public and semi-public corporations and research associations carry out research and development activities. In many instances, these projects involve private Japanese firms (sometimes in truly cooperative research carried out by employees from different firms and organizations, but more often in complementary but separate research efforts).

Japan's financial institutions, aid programs and foreign affairs bureaucracy also play important roles. The Ministry of Finance (MOF) and related financing institutions such as the Export-Import Bank determine the level of funding for R&D programs and provide financing for exports, such as technical services. In 1984 MOF, for example, resisted the efforts by MITI and some Liberal Democratic Party leaders to exempt high technology development budgets from the spending ceiling imposed in order to reduce the deficit. MOF also helps to shape the environment for foreign investment in Japan. In addition, the Ministry of Foreign Affairs and its Japan International Cooperation Agency (JICA) oversee development assistance projects overseas. JICA programs support visits by technical experts and volunteers involved in technology transfer to developing countries.

The Japan External Trade Organization (JETRO), under MITI's jurisdiction, has promotion of technology exchange as one of its three major aims. JETRO operates a number of Centers for Industrial and Technological Cooperation in the United States and Europe. These centers hold seminars on investment and technology exchange. JETRO officials work with the Japan Industrial Technology Association (JITA), which was established 15 years ago and has the authority to license patents held by the Japanese government. JITA organizes high technology missions to the United States and Europe. JETRO officials also respond to requests from U.S. firms for Japanese technology (in areas such as modular housing and medical electronics) by recommending appropriate technology supplying firms in Japan. In addition, JETRO officials conduct what amount to feasibility studies for joint (government-supported) R&D in areas such as rare metals and advanced materials research. These wide-ranging programs illustrate the efforts that the Japanese government has made to promote technology exchange.

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[39] Outline of MITI FY 84 Policy Reported. Jihyo, October 1983, pp. 66-72. See also MITI Bolsters Support for High Technology, JEI Report, no. 34 B, August 31, 1984, p. 3.

[40] See Asahi Evening News, June 29, 1984, p. 1.

[41] Justin L. Bloom, Japan's Ministry of International Trade and Industry as a Policy Instrument in the Development of Information Technology, Center for Information Policy Research, Harvard University, 1984.

Private Japanese firms are, however, the major actors in Japanese technology develoment and transfer. Compared to major Western industrial countries, the share of research financed by private corporations (as opposed to the government) is unusually high in Japan.

The trading companies provide a channel for technology transfer. Because they are linked through "keiretsu" or corporate groupings to manufacturing firms with large in-house R&D capabilities, and to related banks, the trading companies with their extensive overseas networks are in a good position to put together "packages," involving technology, financing and related equipment supply. Traditionally known for their preeminence in worldwide trade of standardized products and raw materials, Japanese trading companies are today increasingly involved in finding overseas partners for Japanese firms with technology to sell. Small Japanese firms without experience in overseas business often turn to a trading company for assistance in identifying potential overseas buyers of technology, and in unraveling the regulatory requirements of the foreign government.

Trade associations such as Keidanren (the Federation of Economic Organizations) also are actively promoting technology exchange. Keidanren's International Investment and Technology Exchange Committee, for example, sponsored a mission to the United States to foster Japanese investment here.

It would be a mistake, however, to assume that there is little disagreement or competition among the agencies and groups involved in formulating and implementing policies affecting Japan's international technology transfers. The struggle between MITI and the Ministry of Post and Telecommunications (MPT) over who will control value-added networks has, for example, been a central feature of debates over the reform of telecommunications administration in Japan. MITI has advocated liberalization, which would mean taking control away from the MPT, but MITI has also tried to extend its oversight by proposing requirements for registration of software. "Territorial wars" are not uncommon among the government bureaucracies.[42]

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[42] See William H. Rapp, Unbundling Japan, Inc., Creative Computing, August 1984, p. 46. See also Advanced Technology Territorial Wars Among Ministries Viewed, Shukan Daiyamondo, February 11, 1984 translated in JPRS-JST-84-046-L, June 4, 1984.

Japanese private sector efforts to assess the feasibility of commercial projects in the space field illustrate the bounded competition characteristic of the Japanese private sector. Japanese firms considering investments in U.S. space-related companies and projects have formed groups to investigate prospects. Each of these space commercialization study groups contains up to 50 firms organized around a trading company. The systematic manner in which the Japanese firms are exploring prospects for technological cooperation in the space field also has a competitive dimension, as the groups of firms vie with one another for contracts.

Historically, the bureaucracy has taken the lead in policymaking in postwar Japan, but politicians are now taking greater interest in Japanese technology development. For example, in 1984 a group of 150 Diet members formed the Federation of Diet Members for New Materials. The group was organized by the LDP to promote expanded R&D funding, as was the case with another LDP group supporting information industries.[43] In addition, the LDP plans to form a high technology research committee within the Policy Affairs Research Committee (PARC) to assess the requests of various ministries for aid in high technology promotion.

Underneath the general consensus favoring technology development and international technology exchange are strong rivalries among agencies and firms. Policy choices governing technology development and transfer are, in practice, subject to complex and competing interests. The competing interests are especially apparent in cases where Japan is under pressure to open up its internal institutions and market to foreigners, as discussed below.

## V. Policy Issues in U.S.-Japan Relations

As Japanese firms enlarge their technology exports, they may be expected to improve their bargaining leverage in technology transfer transactions. The distinct asymmetry of past technology transfers flowing mostly from the United States to Japan is giving way to an increasingly competitive relationship between firms in the two countries.

For U.S. policymakers, these changes raise complex policy issues associated with promoting the competitiveness of U.S. firms and ensuring national security. Key concerns related to competition have been raised: how to limit potential adverse long-term impacts of technology exchange on the domestic U.S. economy, how to make sure that U.S. firms and technical personnel have access to Japan's technology, and how to ensure that Japanese government policies and structural features of Japan's economy do not constitute unfair supports for Japanese firms in worldwide competition. With regard to national security, central concerns are to ensure that sensitive (including dual-use) technologies do not fall into unfriendly hands, and to promote technology cooperation between the United States and Japan which furthers the security interests of both countries.

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[43] See LDP Support Group for High Technology Formed. Nihon Keizai Shimbun. June 20, 1984. p. 1.

In a general sense, concerns about competition and national security are echoed among Japanese policymakers. In Japan, however, there is a growing fear that, for any number of reasons, Japanese firms may find it more difficult to obtain U.S. technology. While the Japanese and American partners in technology transfer in many cases see the results as mutually beneficial, the areas of disagreement discussed below may become sources of friction in bilateral relations and therefore receive primary attention.

### A. PROTECTION OF INDUSTRIAL AND INTELLECTUAL PROPERTY

Technology transfer transactions involve payments to the original developer for the use of intellectual and industrial property rights. While the Nakasone government has now adopted an approach closer to that taken by the U.S., the debates over protection of software illustrate widely differing viewpoints taken by Japanese agencies.

MITI first argued that software is so closely related to computer hardware that it should be treated as industrial rather than intellectual property. Recognizing the lead that the United States has in software development, MITI proposed legislation which would significantly reduce the length of protection provided to software manufacturers thereby aiding Japan's computer industry. The proposed legislation would have replaced copyright protection with another form providing a shorter period (15 years rather than 25–50) of protection. Japan is a party to the Berne Convention (an international agreement which includes software under the copyright protection category). In addition, MITI's proposed legislation would have required inventors to register source codes for software programs, revealing more about the programs than is required under copyright protection.

The United States (as well as the Japanese Ministry of Education) opposed MITI's approach. In high level meetings with the Japanese, top ranking U.S. officials criticized it as a throwback to the 1950s and 1960s, when MITI aggressively protected its industries. MITI's proposed compulsory licensing and approval system in the U.S. view, would have given the ministry tremendous discretionary power over foreign firms, and this could actually serve to limit technology transfer to Japanese firms. To make their point, U.S. officials suggested that the United States could take retaliatory actions if the MITI bill became law.

These debates over Japanese software protection illustrate conflicts of interest between the United States and Japan, and within the Japanese government. While general issues were resolved with passage of legislation in June 1985, areas of ambiguity remain. Revealingly, Japan's Ministry of Education produced its own proposed bill, which comes closer to the U.S. position and to accepted practice under the Berne Convention. The MOE bill would protect software for 50 years, and it includes less stringent approval and registration requirements. The MOE has jurisdiction over copyrights generated in universities and is therefore perhaps more sensitive to the rights of the inventors than MITI, which is also concerned about the vitality of Japan's computer manufacturing industry.

Disputes over patents between high technology firms in the United States and Japan similarly illustrate competing interests. Corning Glass Works, the largest U.S. manufacturer of glass, has claimed that the VAD (vapor axial deposition) method for producing optical fibers, which Japan calls its own domestic technology, infringes on its patent. (NTT's Ibaragi Telecommunications Laboratory has claimed credit for the VAD method.)[44] In another case, IBM threatened Fujitsu and Hitachi with a lawsuit in order to force them to recognize IBM's copyrights for software. In October, 1983 an agreement between IBM and the two firms was reached which apparently allows IBM to examine their IBM-compatible software in order to determine whether infringements on IBM copyrights have occurred. Both Japanese firms agreed to make substantial compensation payments to IBM.[45]

To some extent, these disputes stem from different views concerning access to technology which are reflected in the respective patent systems. To many Japanese, technology is a "public good" until it is patented. Business customs in Japan permit a great deal of informal exchange of information about what competing firms are doing, and overseas branches are effectively used as listening posts. The distinction between proprietary and the public knowledge is subtle, and firms (especially from different countries) may be uncertain about business customs governing exchange of information abroad. Indeed, sellers of technology on both sides of the Pacific complain that in some cases so much is revealed in preliminary discussions that the prospective buyer may decide to develop the technology independently.

Other Asian nations are notoriously lax in their patent protection. While Japan has generally taken a more positive approach, there are differences between the patent systems of Japan and the United States that impede access to Japan's technology. Japan's system is based on the principle of first to file, while the U.S. system is based on the concept of first to invent. One problem for foreign firms is that the Japanese government accepts as authoritative the text translated into Japanese (which in some instances may contain mistranslations), and does not allow examiners to go back to the original English language patent document. As a result, disagreements over patent infringements have in some cases ensued. In addition, Japan's system is less open in the sense that the government is not required to make public as much backup information as is the case in the United States. Fees are also charged to those who wish to review a patent in Japan, and delays are common.[46]

Because these and other factors present obstacles to U.S. firms wishing to register patents in Japan or to those who want to learn about Japanese innovations, U.S. negotiators have attempted to suggest ways in which Japan's patent system can be made more accessible to Americans. But while Japanese organizations have made considerable efforts to monitor U.S. technology, similar efforts have not yet been made by many U.S. firms.

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[44] See U.S.-Japan Patent Dispute on Optical Fiber Analyzed, Sentaku, July-November, 1983.

[45] Effect of Recognition of IBM Software Copyright Examined, Nihon Kogyo Shimbun, October 21, 1983, p. 1.

[46] See Andrew Pollack, The Patent as Trade Barrier, New York Times, July 4, 1984, p. D1.

It seems likely that divergences in U.S. and Japanese approaches to protecting intellectual property will lead to more controversy. In 1983 there were 24 instances where U.S. firms asked the International Trade Commission to bar imports of Japanese products because of alleged infringements on U.S. patents. As high technology trade becomes the terrain of direct competition between the two countries, protection of innovation will be an increasingly important arena of dispute.

### B. IMBALANCE IN FLOWS OF TECHNICAL PERSONNEL AND INFORMATION

In a hearing held in the spring of 1984 by the Subcommittee on Science, Research and Technology of the House Science and Technology Committee, a number of witnesses from U.S. government, industry and universities presented their views on problems Americans face in attempting to obtain technical information generated in Japan.[47] The fundamental problem that these hearings brought to light is the imbalance in the flow of technical information between the U.S. and Japan. While it is impossible, for reasons discussed earlier, to document this imbalance fully, it is widely recognized. Justin Bloom, among the most knowledgeable on the subject, has pointed out that ". . . there are very few American scientists and engineers working in Japan, even in those companies which are American-owned. Many more Japanese technologists are employed in the U.S." [48] This imbalance is a natural cause of concern for policymakers in the United States.

In contrast, and as noted above, Japanese firms and organizations have for years invested considerable resources in gaining access to U.S. technology. A number of recent examples illustrate their skills in acquiring this technology. Japanese firms have provided support for American universities in a period of tight budgetary constraints. They are also buying into U.S. University research projects, and in some cases serving as sole agents selling licenses for technology developed in U.S. universities.[49] In other cases, Japanese firms such as Sumitomo Electric are establishing research facilities in the United States which draw in American technical personnel.

On the other hand, there are a number of blocks to similar U.S. access in Japan. Americans have until recently been unable to hold tenured faculty positions in government-sponsored universities in Japan. American scientists and engineers, generally unable to speak Japanese, have largely found it impossible or not worth the effort to work in Japanese laboratories. Despite the fact that perhaps as many as 20 percent of the technical journals published annually in Japan are being published or abstracted in English,[50] it is not clear that the potentially interested parties are reading them. Small U.S. firms or individual inventors with little previous experience in Japan or with Japanese technology, in particular, may not have the resources to monitor these publications. While the technical information contained in the National Technical Information Services (NTIS) of the U.S. Department of Commerce is a major source of information to Japanese, Japan's Information Center for Science and Technology (JICST) is not similarly available to Americans.[51]

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[47] U.S. Congress. House Science and Technology Committee, Subcommittee on Science, Research and Technology. The Availability of Japanese Scientific and Technological Information in the United States. Hearings, March 6 and 7, 1984.

[48] Justin L. Bloom and Taizo Yakushiji, Stabilization and Expansion of Long-Term Scientific and Technological Cooperation Between the United States and Japan. Prepared for the United States-Japan Advisory Commission, September, 1984. p. 13.

[49] The Japanese trading firm Nissho Iwai has been authorized to sell licenses to technology developed by the Georgia Institute of Technology. See Japan is Buying its way into U.S. University Labs, Business Week, September 24, 1984, p. 72.

Perhaps more important than these obstacles to U.S. access is the fact that Americans have not perceived it as necessary (or cost effective) to try to overcome them. Indeed, the tendency of many Americans to assume that the Japanese have been adapters, but not inventors, of technology has been widely noted. Only a handful of American universities have programs devoted to expanding opportunities for American technical personnel to carry on serious research in Japan, and few American students in technical curricula are enrolled in Japanese lanugage programs.[52] Only large firms such as IBM and RCA have attempted systematically to monitor Japanese science and technology information. The American Electronics Association recently set up an outpost in Tokyo to monitor Japanese technology.

Serious attempts to right the imbalance in flows of technical information must include attention to Japanese language study and the long lead times that such preparation involves. Policy debates have already focused on ways to improve the U.S. mechanisms for acquiring and disseminating technical information. Whether the Japanese technical community will take more constructive and concrete steps to open labs and research facilities to foreigners is a key and pending question.

### C. COSTS AND BENEFITS OF BILATERAL COOPERATION PROGRAMS IN SCIENCE AND TECHNOLOGY

The United States and Japan have signed more than 13 major agreements in science and technology cooperation. This extensive government-supported cooperation involves joint research, much of it in basic science. The United States has often contributed more in terms of human and scientific resources than has Japan, and the programs have generally been started at U.S. initiative. Japan's contribution in some areas has been substantial, however, with fusion energy research a good example. The National Science Foundation, on the U.S. side, and the Japan Society for the Promotion of Science are the two agencies responsible for the cooperative science program, which has supported seminars and collaborate research involving more than 13,000 U.S. and Japanese scientists during the past 20 years.[53]

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[50] Justin Bloom. What is the real need in the U.S. for Japanese Technical Information? Bulletin of the Japan American Society of Washington, September 1984. p. 4.

[51] JICST disseminates technical information in Japan, much of it from abroad. It is not equivalent to NTIS. While NTIS does have agreements with a number of Japanese agencies to obtain technical information, obtaining the necessary copyright release to publish information is often time consuming. JICST and NTIS are negotiating to establish U.S. online access to the JICST database.

[52] MIT's Japan Science and Technology Program, begun in 1982, has placed a few students in laboratories, as has North Carolina State University's Japan Center.

While these research programs are generally viewed as mutually beneficial, there is disagreement concerning their long-term benefits and costs to the United States. Collaboration in areas such as seismic research has been fruitful. In this case, Japan provides research facilities while the U.S. experts contribute the theoretical and mathematical models used to interpret results of experiments. On the other hand, the SRCII coal conversion project (abandoned due to a change in U.S. policy) created some misgivings about whether cooperation is feasible on large-scale commercially-oriented projects. Bilateral cooperation in space has been subject to the criticism that the programs have put Japanese firms in a position to become major challengers to U.S. firms in this field. Critics call for more programs in areas such as fermentation research—where Japan is strong, and where there are likely to be significant commercial applications.

Many U.S. observers suggest that there has been insufficient stress laid on evaluating the overall costs and benefits of such cooperative programs. Without such a perspective, it is difficult to make good choices concerning areas and modes of cooperation. Funding, negotiation and evaluation of these programs thus remain areas of disagreement. One school argues that neither side has done enough to publicize the positive results of these programs. On the other hand~~, others~~ say that the time has come for a major re-evaluation of U.S. interests, since Japan was a junior partner when some of these programs were initiated and the situation has now changed. Needless to say, should the United States now draw back from its close bilateral technical relationship with Japan, it would do so at a point when the potential benefits to the United States are growing.

### D. MILITARY TECHNOLOGY COOPERATION

In early 1983 the Nakasone government announced a new policy that opens the door to cooperation with the United States in the exchange of technologies useful in military projects. But while the principle of bilateral technology exchange in the defense field has thus been established, a number of questions stand in the way of full implementation.

Prime among them is Japan's reluctance to become an "arms exporter." Japanese leaders recognize the applicability of many of the technologies that have been developed in the private sector to military needs. But if these Japanese exports are actually categorized as "military" and/or openly provided to military end-users in the United States, public reaction will undoubtedly be negative. Japanese leaders have therefore been anxious to clarify which Japanese technologies the United States is interested in, without introducing too rigid definitions that would stifle the spirit of cooperation. In addition, some Japanese firms worry that by participating in cooperative programs, they may promote the commercial development of their competitors in the United States.

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[53] Funding for this and other NSF programs totalled $940,000 in 1982/83. In addition, a number of U.S. agencies jointly fund programs with Japanese agencies, amounting to $1.3 million in 1982/83. See The U.S.-Japan Committee on Scientific Cooperation, U.S.-Japan Cooperative Science Programs, Status Report, April 1, 1982, and March 31, 1983. In the fusion energy field, Japan is contributing about $30 million a year, while the U.S. contribution is about $2.3 million used to cover travel and personnel costs. Japan also spent $6.8 million in 1982 for high energy physics projects. See U.S. House of Representatives, Committees on Foreign Affairs and Science and Technology, Science, Technology and American Diplomacy—1983, annual report to the Congress, pp. 102-6.

In the United States there are equally important concerns which preclude rapid movement toward military technology cooperation with Japan. Chief among these are national security issues. While Japan is a member of CoCom, there is nevertheless a lack of agreement within the U.S. government about whether controls on dual-use exports in Japan and West Europe are sufficiently stringent.[54] The Department of Defense has taken a number of steps which restrict foreign participation in technology exchange in order to protect national security. DOD was reported to have asked the Japanese firm Kyocera to divest itself of a California-based subsidiary (Dexcel) which produces field-effect transistors and aerospace components. This was an unusual case in which U.S. law mandating U.S. ownership of firms involved in sensitive defense contracts was invoked.[55] DOD has also restricted participation by Japanese in some academic exchanges and conferences where militarily-sensitive research results are under discussion.

Echoing fears in Japan, U.S. firms worry that Japanese firms participating in joint projects will thereby gain a competitive edge. There is a strong feeling in the United States that the U.S. business community for many years sold Japan technology too cheaply and with little consideration of long-term effects. The celebrated case perhaps most often cited is licensing to Japan's aerospace industry, including coproduction of the F-15 and partnership with foreign firms in air engine development. Yet opinions differ concerning the respective gains and losses to each side: some think that U.S. firms are helping to build a potentially formidable rival in Japan's aerospace industry; others see the licensing and coproduction arrangements as providing U.S. jobs and revenues needed to pursue R&D here.[56] As Japanese investment in the United States rises, U.S. policymakers will have to balance security interests and commercial interests in formulating policies covering Japanese participation in military projects.[57]

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[54] This disagreement is apparent in the stalemate that developed in 1984 over renewal of the Export Administration Act, and in differences in viewpoint between various executive branch agencies (such as the Departments of Defense and Commerce). On a related point, allegations that Japan is a "sieve" through which technology leaks to the Soviet bloc are debated by experts. See Ellen L. Frost, U.S.-Japan Security Relations in the 1980s and Beyond, paper prepared for the U.S.-Japan Advisory Commission, August 1984, p. 55. See also William T. Tow, U.S.-Japan Military Technology Transfer: Collaboration or Conflict? Journal of Northeast Area Studies, vol. II., no. 4, December, 1983.

[55] The Japanese firm denied the allegations that Dexcel was sold under pressure from DOD. Japanese newspapers also reported that DOD had forced Mitsubishi Chemical Industries Ltd. to sell its U.S. subsidiary Optical Information Systems, and that DOD blocked Japanese acquisition of Special Metals Corporation (involved in production of materials for the F-16) by the Japanese firm Nippon Steel. See Michael Chinworth, Japan-U.S. Defense Technology Exchanges, JEI Report, July 6, 1984.

[56] See, for example, Orit Frenkel, Flying High: A Case Study of Japanese Industrial Policy, Journal of Policy Analysis and Management, vol. 3, no. 3, pp. 406-20, 1984.

[57] NASA is struggling to develop a policy on participation by Japanese-capitalized firms such as Microgravity Research Associations in space commercialization projects.

Despite these sources of concern on both sides, important efforts have been made in the last year to promote military technology cooperation. At the requet of the Defense Science Board, which reports directly to the Secretary of Defense, a task force on industry-to-industry cooperation in armaments with Japan submitted a report in June 1984. A team of technical experts from the U.S. industrial sector surveyed Japan's capabilities for dual-use technology transfers and prepared a list of potential fields of cooperation.[58] In addition, teams of U.S. scientists from industry and government will visit Japan to conduct more specialized discussions.

The DSB report strongly endorses cooperation with Japan, and refutes the notion that the risks of increased competition can be reduced by avoiding cooperation: "In the long run, at least, there is thus no such thing as 'cutting off' Japan. Japan's defense industry has already come too far, its domestic resources are too great, and its alternate sources of ideas and information are too many for a negative U.S. posture on technological cooperation to do more than delay its development." [59] At the same time, the DSB task force expresses concern that there is no cohesive U.S. strategy toward technology exchange with Japan embracing economic and defense objectives. The report is important in setting a positive context for military cooperation, but high level leadership will be needed to encourage specific instances of cooperation. For example, successful implementation of some test cases of cooperation between U.S. and Japanese firms could serve as a model for others.[60] Therefore, while momentum is building in Japan and the United States for military technology cooperation, it is not yet clear how this will evolve. The competing commercial and national security concerns at stake ensure that this will be a subject of continuing debate.

### E. TECHNOLOGICAL COMPETITION IN LDC MARKETS

Korean President Chun recently made a public request that Japan transfer more advanced technologies to Korea. The Korean leader came to Japan on a historic visit with a list of specific technologies and companies. Technology transfer was thus elevated to a key bilateral issue. The incident illustrates the stress that newly industrializing countries like South Korea put on gaining access to the most advanced technology. It also indicates that Japanese and U.S. firms will increasingly be direct competitors in technology transfer to LDCs.

As the United States and Japan compete for exports of high technology goods and services to third country markets, questions will arise as to whether competition will drive exporters in both countries to sell more advanced technologies than may be appropriate or in their own security interests, and whether they are playing the game by the same rules. In China, for example, Japanese and U.S. firms have been direct competitors for contract awards in many fields. The ability of Japanese firms, often supported by MITI, to put together comprehensive "packages" involving technology, equipment and services with favorable financing (including offsets and other arrangements) makes them formidable rivals. Similarly, Japan's willingness to combine commercial aims with economic assistance contrasts with the general reluctance in the United States to use measures such as mixed credits.[61]

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[58] Office of the Under Secretary of Defense for Research and Engineering. Industry-to-Industry International Armaments Cooperation. Phase II—Japan, Report of the Defense Science Board Task Force, June 1984. p. 42.

[59] Ibid., p. 51.

[60] Nissan and Martin Marietta have concluded an agreement for defense-related technological cooperation. Another potential test case could involve a subsidiary of GM (Detroit Diesel Allison) purchasing technology for the Japanese 74-type tank from Mitsubishi Heavy Industries.

U.S. officials have noted the "Japan connection" in trade deficits with Taiwan and Korea. Some believe that the difficulties Taiwan and Korea have in penetrating the Japanese market have spillover effects—in their growing penetration of U.S. markets.[62] Decisions made in Japan about technology transfer to developing countries can thus have important impacts on U.S. trade balances.

Particularly with respect to developing countries in Asia, security considerations come into play as well. Since Japan is such an important trading partner with these countries, its policies governing export of dual-use technologies could have important effects on Asian security. As a major producer of commercial nuclear power and a potential exporter of power reactors, Japanese policies governing nuclear technology transfers to China in particular could critically affect that country's nuclear plans. There is growing concern to ensure harmony in U.S. and Japanese policies on dual-use exports to Asian countries, since these countries are now major importers of such technologies and are considered by some U.S. experts to be potential sources of diversion to the Soviet bloc.[63] Thus, for commercial as well as military reasons, harmonizing Japanese and U.S. technology transfer policies toward third countries may be increasingly important.

## F. STRUCTURAL BARRIERS

Since the early 1980s a series of high technology talks have been conducted by U.S. and Japanese officials. The goal is to reduce trade frictions arising from direct competition between the two countries in high technology product trade. Japanese import penetration in semiconductors was the stimulus for these talks. Specialized working groups have made a number of proposals to eliminate barriers to trade and technology transfer in electronics—reciprocal technology exchange, free investment, removal of tariffs, opening up procurement to foreign firms, and allowing participation of foreign firms in government-sponsored R&D projects.

Major stress in these discussions has been on obstacles to free exchange of capital, technology and products[64] that exist in Japan.

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[61] See OTA, Technology Transfer to the Middle East, 1984, chapter 12. These and other divergences in U.S. and Japanese approaches to technology transfer in the Middle East are analyzed in the report.

[62] See U.S. Congress. House Committee on Ways and Means. Subcommittee on Trade Task Force Report on United States-Japan Trade. Washington, U.S. Govt. Print. Off., 1979. p. 15.

[63] The Pacific Rim countries (including Japan) imported $8.3 billion in high technology from the U.S. in 1983, or more than Europe imported. Richard N. Perle, assistant secretary for defense for international security, has called on these countries to tighten up their own exports of high technology.

[64] The Japanese government, under pressure from the United States, has taken a number of steps to simplify import procedures by authorizing U.S. firms to conduct safety checks on certain products. Japanese testing and product standards have long been viewed by foreign firms as impediments to sales by foreign firms in Japan. Under the new MITI ruling, U.S. firms will be able to submit products to Underwriters Laboratories (US) for review to ensure acceptance under the Electrical Appliance and Consumer Safety laws of Japan.

Japan has made sequential moves, first in product trade, then in liberalizing investment regulations, and more recently in beginning to open up its R&D establishment. While Japan radically revised its regulations in 1980, all international technology contracts must be filed with the government for a 30-day review period. During this time, the Japanese government can make recommendations that changes be made in contracts in order to protect public safety, or if it appears that the contract might seriously and adversely affect the positions of Japanese firms.[65]

Financial liberalization measures introduced in 1984 serve to facilitate U.S. access to Japanese capital and technology. By eliminating prohibitions on foreign purchases of certain types of Japanese firms, and by allowing foreign firms permission to apply for funds from the Japanese Export-Import Bank, the ability of foreigners to acquire Japanese financing and technology may be increased. Similarly, the reorganization of NTT (Nippon Telegraph and Telephone Public Corporation), while not yet enacted, include provisions that could make it easier for U.S. firms to gain access to Japanese telecommunications markets, and to link up with Japanese firms in technology transfers.[66]

A number of bills dealing with high technology trade and market depth. Generally speaking, steps that strengthen free trade also serve to facilitate international technology exchange. Measures designed to ensure reciprocal access in Japan indicate a climate of uncertainty and even resentment over informal and structural barriers to full participation by U.S. firms in Japan's R&D establishment.

A major goal of U.S. officials has been to push Japan to make sure that U.S. firms, can participate in Japanese government-supported research programs, and that they can obtain patents produced in these research projects. The case of negotiations over U.S. entry to NTEC (Nippon Telecommunications Engineering Co., Ltd.) illustrates the difficulties of opening up Japanese organizations to U.S. participation. NTEC, which licenses NTT patents, reacted cautiously to queries from the U.S. Department of Commerce concerning participation by firms. After much delay, NTEC officials provided English translations of materials and invited membership by U.S. firms. By early 1985, no U.S. firm had committed itself to pay the fees (a one-time entry fee of about $1000 and a $300 annual fee) and become a member. There has thus been reluctance on both sides to participate. Nevertheless, agreement in principle to open up such organizations to U.S. membership is a significant first step.[67]

Policies designed to remove structural barriers to access to Japanese technology depend on changes in the ways organizations operate and imply improved technical exchange at the individual level. Their effects therefore may be particularly long-lasting, but they are also, for the same reasons, difficult to implement fully. One source of difficulty is that evaluations of what constitutes "fair" and "reciprocal" access require a rather sophisticated understanding of how Japan's research, government and business institutions actually function.

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[65] Layton, ibid., p. 190.

[66] NTT and IBM announced plans for cooperation in software development that will make it possible for them to interconnect their communications networks.

[67] In February 1984 Japanese and U.S. negotiators reached agreement in principle that NTT take a number of steps to make its R&D system and results more accessible to U.S. firms.

### G. U.S. GOVERNMENT RESOURCES FOR FORMULATING AND IMPLEMENTING TECHNOLOGY TRANSFER POLICIES

A major obstacle to analyzing trends in technology transfer and to developing effective policies is the absence of information needed to analyze fully the extent and nature of technology transfer (through movement of technical personnel, provision of technical services, cross-licensing and other arrangements between firms from different countries). Disagreements (both within the U.S. government and between the United States and its CoCom partners) concerning what kinds of controls should be placed on various kinds of high technology exports reveal fundamental differences in interpretation of the available data. It is not surprising, in this context, that decisions to restrict or promote technology exchange with Japan have often been made on a case-by-case basis rather than as natural facets of a comprehensive and well-integrated policy.

In the United States, diagreements between Departments and within Congress are transparent, well publicized, and followed carefully by observers in Japan. Within the U.S. government, expertise relating to Japanese technology and policies is scattered across many agencies and in many individuals who do not exchange views or information on a regular basis. There is no institutional locus of knowledge concerning Japanese technology. While this certainly ensures that many points of view will be taken into consideration, the result has been policies that lurch from promoting technology exchange with Japan (in fields such as military technology development), to restricting Japanese access to U.S. technology, to stress on removing structural barriers to foreign access to Japanese technology.

In contrast to the situation in Japan, where considerable resources have been devoted to monitoring U.S. technology and policy developments, there is no clear agreement that the role of the U.S. government should be substantially improved in these areas.

## VI. CONCLUSION

The major theme in technological exchange between the United States and Japan is one of growing interdependence. Japan's rise as a developer and exporter of technology promises to further stimulate innovation and healthy competition in both countries. At the same time, there are significant constraints on technology exchange between the two nations, which stem from legitimate concerns on each side. In the United States, these include fears of inadequate protection of innovations, potential adverse effects on domestic industries, and possible leakage of sensitive technologies to unfriendly parties. In Japan as well, technology exports are constrained by domestic political sensitivity toward military exports, concern about a "boomerang" effect from exports to LDCs, and institutional and cultural differences which present obstacles to technological exchange between Japanese and foreigners.

This situation presents major challenges to policymakers in both countries. For Japanese leaders, a central issue is how to respond effectively to calls from abroad for expanded access to Japan's research laboratories, domestic markets for technology, and to participation in government-supported R and D programs. Because obstacles to foreign access stem from deep-seated features of Japan's economic system, significant changes will be required to demonstrate Japan's willingness to open its system so as to stave off U.S. concerns that technology exchange remains a one-way street. In addition, Japanese leaders will face delicate problems in developing policies governing export of sensitive dual-use technologies.

For policymakers in the United States, a central problem is in developing a policy consensus which balances economic and defense interests associated with technology transfer. Promotion of technology exchange with Japan and other friendly nations implies a more consistent approach to dual-use issues and a comprehensive perspective on international trade which includes attention to adjustment policies for domestic workers and industries. Another critical issue for U.S. policymakers is how to promote technology acquisition from abroad. In the past, little systematic effort was made to track technological developments abroad and to understand Japanese and other foreign government policies concerning technology transfer. Today these are much more important issues, but private sector U.S. firms are generally ill-equipped to carry out these activities independently.

At a fundamental level, effective management of technology transfer issues presents challenges to policymakers in all advanced countries because this implies significant changes in business-government relations, in trade philosophies, and perhaps even in definitions of national interest. Technology transfers present possibilities for cooperation as well as competition, and the interests of firms and governments often diverge. Unless Japan moves quickly and decisively to further open access to its technology, and unless U.S. firms and agencies invest the considerable additional resources needed to learn from Japan, technology exchange between the two countries may be the source of increasing friction in the years ahead.

# INDUSTRIAL DEVELOPMENT POLICY IN JAPAN

## By Michael Borrus and John Zysman

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## I. SUMMARY

In Part II of this paper the process is explained through which the Japanese government has played and continues to play an important role in creating advantage in world markets. During the period of orchestrated development between the mid-1950s to the late 1960s, the government exerted influence on the industrial economy in two principal ways: by controlling external access to the domestic economy and by seeking to promote its development.

In this period the government—notably the Ministry of International Trade and Industry (MITI)—often induced the very competition it sought to direct. While the government and the private sector worked together to avoid "disruptive" or "evasive" competition, "intense but controlled" competition domestically substituted for the pressures of the international market to force development. Although the direct engine behind growth was domestic competition in a rapidly growing domestic market, structured competition generated the product and production strengths that the Japanese have taken into world markets.

For the present, certain characteristics of Japan's business structure and its system of state administration and policy support a strategy of controlled competition for development. A range of policies are used to promote technology-intensive, "sunrise" industries. These policies include public and private collaborative research and development measures; setting standards with a view to structuring and channeling competition; subsidies; tax incentives; promoting industry rationalization; and encouraging the creation of cartels.

We conclude our discussion of each of these types of measures for nurturing sunrise industries with the observation that, even

though its powers of control and intervention have diminished, the Japanese government continues to act purposely and effectively in promoting promising new industries. The arrangements that give structural advantages to the Japanese have endured.

Part III of the paper analyzes the role of technology policy in Japanese industrial development in the context of Japanese telecommunications policy and development. Japanese success in world telecommunications markets has rested on the ability of Japanese producers to move rapidly to volume production with limited risk, in a domestic market insulated from foreign competition. The industrial policy role of Nippon Telegraph and Telephone (NTT) in particular has enabled favored Japanese telecommunications companies to develop and commercialize new technologies in a protected and subsidized, risk-minimalized way.

With NTT coordinating common standards development and allocating markets among its favored family, Japanese producers developed a small number of related product families that share common components and automated production facilities, and, hence, lower overall costs. When combined with procurement from NTT in high volumes at premium prices, the costs of the resulting equipment have been driven to or below world levels, enabling rapid competitive penetration of world markets by major Japanese firms.

We conclude that continuing regulation, with a self-conscious developmental intent, will probably remain a vital part of Japan's telecommunications landscape. Such regulation of telecommunications equipment and services, by the Ministry of Posts and Telecommunications as well as by NTT, is likely to persist despite the recent privatization of NTT and the liberalization of competition in telecommunication services.

## II. Industrial Development Policy

### A. INTRODUCTION

Japan has pursued a conscious strategy of industrial development that has influenced both its pattern of domestic growth and international trade. We elaborate here the mechanisms by which government shaped the dynamics of a highly competitive market system. We see it not as miraculous and not as a product of distinctive Japanese cultural characteristics or political institutions. Our position differs sharply from many of the standard interpretations of the so-called Japanese miracle. Government and market cannot be disentangled in the story. We argue that the Japanese government has played and continues to play an important role in creating advantage in world markets. Our intent is to explain how the process works.

This discussion proceeds in four steps. First, we present an interpretation of the interplay between government and market during the developmental years. Second, we consider the institutional base on which this approach to policy rests. Third, we consider whether the strategies and arrangements of the developmental years have been altered.[1]

### B. THE DEVELOPMENTAL YEARS: AN INTERPRETIVE SKETCH OF THE INTERPLAY OF GOVERNMENT AND MARKET

Explanations of all sorts have been found to account for Japanese success. They fall loosely in categories: the cultural arguments that run from the features of Japanese management style to the attitudes of Japanese workers; the institutional arguments that point variously to the production cartels, to the lax or relaxed rules for antitrust and to MITI; the economic arguments that consider such things as high savings rates and the convoluted workings of the distribution system; and the political arguments that point to the concerted political will required to mobilize the state policy that supported and promoted growth. None of these individual elements in and of themselves were critical to the success of Japanese policy. It is the web of policies and the purposes to which the elements are put that we must understand.

*Government and Market.* During the period of orchestrated development from the mid-1950s to the late 1960s, the Japanese government's primary commitment was to economic growth and the transformation of the economic base from agriculture to light industry and then to heavy industry. To do this, in our view, the government sought to establish the infrastructure necessary for private firms to expand, develop, and compete. Infrastructure was very broadly defined; it included sectors, such as steel and shipping, that reduced the cost of imported materials and were critical to the entire economy. The government assured critical sectors the financial resources they needed to expand competitively, both by providing budgeted funds and by manipulating the financial system to expand credit selectively. Similarly, it encouraged the importing and domestic development of basic technologies. In this sense, in the parlance of the trade debate, Japan targeted certain industries. But that metaphor is misleading, and it understates the complex web of arrangements that underlay the competitive drive for success within Japan.

The Japanese government exerted influence on the industrial economy during the boom years in two principal ways. *First,* it was a gatekeeper, controlling external access to the domestic economy. Perhaps more accurately, it patrolled the channels that tied the national to the international market. The discretion to decide what to let into Japan permitted the government to break up the packages of technology, capital, and control represented by foreign multinational corporations. MITI was the primary functionary in these gatekeeper activities. As Chalmers Johnson explains:

> Before the capital liberalization of the late 1960s and and 1970s, no technology entered the country without MITI's approval; no joint venture was ever agreed to without MITI's scrutiny and frequent alteration of the terms; no patent rights were ever bought without MITI's pressur-

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[1] Part II is drawn from Creating Advantage, a forthcoming book from the Berkeley Roundtable on the International Economy at the University of California, Berkeley.

> ing the seller to lower the royalties or to make other changes advantageous to Japanese industry as a whole; and no program for the importation of foreign technology was ever approved until MITI and its various advisory committees had agreed that the time was right and that the industry involved was scheduled for "nurturing." [2]

A crucial proposition in the debate is that the closed market gave Japanese firms a protected base of demand that facilitated the rapid expansion of production and innovation in manufacturing; this served to negate the product or production advantages foreign firms would have used to enter the Japanese market in a range of products including automobiles. The Japanese automobile market was quite closed to foreign firms. Indeed, a reciprocal agreement limited Fiat, a firm quite capable of producing small cars that were in demand in Japan, to selling 3,000 cars a year. Later such restrictions mattered less, but as we shall see they played a role in creating advantage. The controversy over the consequences of market closure continues. To many observers, Japanese policies and practices restricting access still negate the advantages in research and innovation on which many foreign firms in many sectors depend. Cray Computer has noted that only two supercomputers were sold in Japan during the 1970s and early 1980s. However, in the year that Hitachi announced its rival to the Cray, it sold at least eight supercomputers. Corning Glass has noted that it has been unable to receive patent protection on optical fibre products in Japan for 12 years. It now faces a Japanese product developed in conjunction with NTT in the American market. A lawsuit against Sumitomo is pending.

*Second*, agencies of the Japanese government—notably MITI—sought to promote the development of the domestic economy. Seen from the perspective of the firm, government policy helped provide cash for investment, tax breaks to sustain liquidity, research and development support, and aid to promote exports. We shall examine these policies in a number of cases as we proceed. These public policies—the web of policies rather than any individual elements in it—changed the options of companies. Without external debt finance, the funds to expand production rapidly would not have been available to firms. Importantly, with a protected market the easy availability of capital and imported technology was bound to attract entrants to favored sectors. Protection and promotion in Japan served to produce real domestic competition.

MITI was not so much a director as a marketplace player, with its own purposes and its own means of intervening in the market to achieve them. Most important, the Japanese government's industrial strategy assumed that the market pressures of competition would serve as an instrument of policy. It is not simply that the government made use of competitive forces, but rather that it often induced the very competition it sought to direct. There was (in the phrase used by Professor Murakami of Tokyo University) intense but controlled competition. The promotional policy attracted market entrants, and the stampede for entry and the resulting battle for market share were then termed by MITI excessive competition which had to be controlled. The intense domestic competition was controlled by a variety of mechanisms that included expansion plans agreed to jointly by government and industry, debt financing of rapid expansion that made the bankruptcy of major firms a threat to the entire economy and hence unthinkable, and the often-cited recession cartels. Equally important, joint research and development programs for the development of generic technologies assured wider diffusion of a technology base than might have occurred from purely private programs, whether government subsidized or not. Similarly, technical-standard-setting served to channel competition into applications and manufacturing.

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[2] Johnson, Chalmers. MITI and Japanese Maracle: The Growth of Industrial Policy, 1925-1975. Stanford, Stanford University Press, 1982. p. 17.

This intense but controlled competition domestically substituted for the pressures of the international market to force development. The competition was real, but the government and private sector worked together to avoid "disruptive" or "evasive" competition. It is important to note that the complex of policies that encouraged rapid entry and a scramble for market share rather than short-term profits also encouraged surges of exports, as aggressive firms competing for domestic market share reached the international market together. These surges, in fact, began to lead to criticisms of Japanese economic policy. We do not need to select between cartoon images of Japan Inc. and of a land of unfettered competition. It is the particular interaction of state and market in Japan that is interesting.

The interaction of market and state in Japan rests on a very particular set of institutional arrangements in politics and business. We must summarize them briefly both to understand the dynamics of the Japanese economy and to clarify why the particulars of Japanese strategy cannot easily be copied in this country.

### C. THE INSTITUTIONAL BASE OF JAPANESE POLICY FOR INDUSTRY AND TRADE

Japanese policy for industry and trade and the strategy of controlled competition for development rest on a very particular institutional and political base. That base has three components: First, the administrative apparatus is structured in a fashion that permits a group of elite bureaucrats at MITI, Finance, and elsewhere, to formulate a strategy. The administration is centralized, which eliminates conflicts between, for example, state and national officials. The executive branch dominates the legislative, so that there is little detailed scrutiny of administration decisions. The administration has extensive discretion in determining and applying rules, which gives it extensive power in bargaining with the private sector. The elite bureaucrats themselves form something best called a caste, recruited from the same schools and rising within the system together.

Second, the structure of the financial system gives the bureaucracy the ability to intervene selectively as a player in the industrial economy. As Ueno has argued, the financial system might be the crucial instrument in the government's repertoire of domestic policies. It permitted the government to direct not just budget funds but the flow of savings and investment in the economy as well.[3] As Ueno summarized the situation:

> Broadly speaking, the total supply of funds in Japan was controlled by the Bank of Japan, the level and structure of interest rates were artificially regulated by the Ministry of Finance, and *private funds were allocated, under the guidance of public financial institutions by city banks which competed for market shares.* In this process, the Bank of Japan followed the guidelines of the Economic Planning Agency and the MITI and determined the total amount of funds so as to satisfy the demands to growth industries. At the same time, the Ministry of Finance maintained the low interest policy inasmuch as the policy did not lead to large deficits in the balance of payments or to share price rises.

Zysman has summarized the importance of the financial instrument:

> The credit-based financial system served the government as a powerful instrument of policy. The political and policy strategies of the Japanese government would have been difficult to accomplish within the constraints of a capital market-based financial system with freely moving prices and an elaborate securities market. The financial instrument in Japan served several purposes. Most generally, it helped force the household sector to bear the costs of expansion in the form of artificially low interest rates. At the same time, the system socialized those costs by diffusing or absorbing the risks of investment and corporate failure. It also reduced the price of expanding and stockpiling goods in anticipation of market development, which has been a constant Japanese market tactic. Access to credit was selectively manipulated to provide preference to favored sectors and to push the economy slowly toward capital-intensive and knowledge-intensive production. In all sectors there has been a constant effort to push and tempt firms onto what the government sees as the paths of competitive righteousness. The degree to which government's view prevails within particular sectors depends on the international competitive strength and financial position of their major companies. The government's view prevailed when companies needed capital, imported technology, and sought assistance in market development. In sum, the economy is not administered but the government seeks to act to affect the terms of competition in order to create outcomes it favors. In essence, the state is another powerful economic player sharing market development in pursuit of competitiveness but not of profits. Finance is a vital instrument—in Ueno's view the crucial instrument—in the government's repertoire of domestic policies. The Japa-

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[3] For a description, see: Zysman, John. Governments, Markets, and Growth: Financial Systems and the Politics of Industrial Change. Ithaca, Cornell University Press, 1983.

> nese case closely parallels the French in which a credit-based, price-administered financial system is at the core of a state-led industrial strategy.[4]

Third, a conservative coalition of organized agriculture and business insulated the bureaucracy from radical political shifts. The Liberal Democratic Party, the instrument of that coalition, was based on rural and small-town votes and big-business finance. It has been in power almost continuously in the post-war period. Power shifts between factions within the party, but the party itself has been the government. As Chalmers Johnson has remarked, "The politicians reigned, but the bureaucrats ruled." This was certainly true in the center of government priorities, industrial development.

*Controlled Competition Muscle and Flexibility.* The structure of business, as well as the system of state administration and policy, supports an arrangement of controlled competition. The notion of controlled competition was one we adopted to account for the interplay of market and politics we observed in many sectors in Japan. Having begun to use it, we found that Professor Murakami of Tokyo University also had chosen that term to describe the central characteristics of the Japanese economy. The dynamics and mechanics of controlled competition are crucial to understanding the role of government in the pattern of rapid growth and emerging international competitiveness.

Much has been made of MITI's structure councils where private business, government officials, academics, and even press leaders meet to formulate consensual policy directions. That pattern of interaction rests on the structure of government on one hand, and of business on the other. As we discussed above, at the core of the state system in Japan is a highly centralized bureaucracy staffed by elite civil servants. These career servants of the state were recruited from the top graduates of the most prestigious national universities. Their positions gave them social status as well as administrative power.

Responsibility for promotional policies was inevitably spread across several ministries, but at the core of the system was the Ministry of International Trade and Industry. Chalmers Johnson's excellent book cited above traces the evolution of MITI's role from adjunct to an agriculture ministry, to keeper of the cartels, through administrative control during the war and into the system of administrative guidance we have been describing. This bureaucratic system was relatively insulated from detailed political control by the domination of the Liberal Democratic Party and was armed with instruments of selected economic intervention through the financial system that were entirely outside of legislative control.

Japanese state development policy rested, as well, on a business community that, before the war, developed giant hierarchal firms, inter-company group linkages, and some international orientation. The business community was not only the vehicle but the political support for the efforts of postwar development.

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[4] Zysman, Government, Markets, and Growth.

Equally important, the structure of business provided the basis of collaboration between firms. This was not so much because Japan is an economy of giant firms, although levels of concentration in the economy as a whole and of sellers in specific markets are as high as in the United States. Rather, a number of mechanisms drew the large firms together in common institutions. The trading companies, an early link between the insulated domestic economy and its external sources of supply, represent one such mechanism.

A second mechanism, the Zaibatsu groupings of companies, were dissolved in the American occupation. However, groupings around large banks (Keiretsu) based on earlier Zaibatsu ties have been estabished that now tie firms together. There are several forms of Keiretsu, ranging from groups with close inter-company ties to loose, basically financial arrangements. While there is a debate on the precise form or degree of operating cohesion in these groups, the fact is that a majority of company stock in Japan is held by other companies or banks. This provides still another set of interfirm links. The world of small firms is not anarchic either, because many of the small firms are linked as suppliers to large companies. Small firms are not inevitably relegated to subordinate supplier status; some independent small firms have grown to compete directly with the giants. But the well-known and much publicized examples, Sony and Honda, are rather exeptional. Lastly, whilie cartels are nominally illegal, an enormous number are in fact exempt from the general prohibition. These several forms of inter-company links provide the organizational infrastructure for controlled competition.

Japanese industry combines in an innovative manner strengths of both the muscular large firms able to mobilize substantial resources in pursuit of long-term objectives and the flexibility and mobility of small firms. Much has been made of the ability of large Japanese firms to raise low-cost capital and to leverage a strong position in one market into entry into another. Indeed, the advantages of interfirm cooperation in research and development have led some American observers to argue for a relaxation of antitrust laws in order to permit coordination among American firms. Less has been said about the flexibility that has made the Japanese an agile, not a lumbering, giant. The agility comes in two forms. First, small firms that are suppliers and contractors to larger firms play a vital role. In the American system, many of the tasks these small firms play would be integrated into the parent company. Subcontracting ties component suppliers to the parent assembler by market ties rather than hierarchy inside a firm. The small firm must scramble to adjust to changes in the market demands of the large parent firm.

Second many Japanese companies begin as spinoffs from larger firms. Elsewhere they might be structured as divisions or tightly controlled subsidiaries. In Japan, firms such as Fujitsu Fanuc are organized as quite independent operations. Marketplace ties rather then purely administrative relations are at work again. Yet, we must not be lost in the Anglo-American dichotomy between market and administration. The Japanese system combines both along lines different from those with which we are familiar.

The system of controlled competition permitted the government to pursue a strategy of creating enduring advantage in the international market. Production technologies and factor availabilities, unlike mountains, are not immutable features of a nation's economic topography. There are only a few industrial sectors such as coal or oil in which comparative advantage is given in the form of fixed natural resource availability, and even here production and transportation facilities may alter a seemingly self-evident calculus. Japanese transportation policy gave its basic industries a cost advantage by importing raw materials.

In most sectors—particularly the manufacturing sectors which dominate the production and trade of advanced industrial countries—comparative advantage is partly the result of national economic policies. Such policies in Japan, for example, influence the accumulation of physical capital, the pace of research and development, and the development of labor skills and education, all of which underlie the factor "endowments" and production technologies dear to classical economic theory. A concerted long-range policy can steadily turn a competitive disadvantage in capital, education, or research-intensive industries into a national comparative advantage. In short, national comparative advantage, the sectors for which, relative to other domestic uses of resources, a country gains the most in international trade, can be created by national policy measures. From this perspective, a nation that subsidizes its exports may transfer wealth to other countries in the short term but it may build its own wealth in the long term if it promotes an enduring comparative advantage for domestic firms in the sectors with high value added that are growing the most rapidly.

Although government policies in Japan were critical, the direct engine behind growth was domestic competition in a rapidly expanding market. Structured competition in a rapidly growing domestic market, closed to outsiders, generated the product and production strengths that the Japanese have taken into world markets. Elements of Japanese culture, and more importantly of the business structure, may have facilitated these market innovations, but the driving force was marketplace incentives.

Many supposedly "Japanese" elements—including the pursuit of market share and the tactics of internal organization—follow logically from the nature of the market situation, even though they have roots in policy. The achievements of Japanese companies are real; they are not mysterious. Those strengths are now entrenched in corporate strategies for the market and the tactics of production organization in the factory.

Let us take a moment to consider how structured competition in a rapidly growing market will generate the product and production advantages the Japanese have taken into world markets. Those strengths are rooted in corporate strategies for the market and the tactics of production organization in the factory. Given the same conditions, producers of many nations would likely have responded in similar ways. From 1960, automobile production jumped from 160,000 cars to some 10,000,000 by the end of the 1970s. Each new assembly line was an experiment station for production, and the Japanese companies could innovate and come down that well-known production learning curve. In essence, the Japanese imported the best available production technology and then improved it. The marginal improvements accumulated into a fundamental manufacturing innovation. Rapidly expanding markets mean that they then had occasion to learn how to improve on the imported practices.

### D. IS THERE NOW AN INDUSTRIAL POLICY IN JAPAN

As the Japanese system has evolved, its developmental system has loosened. Government-led policy no longer seems to try to control the evolution of the whole economy; instead, its interventions are intended to ease the transition of declining sectors and to promote the expansion of new industries. In other words, there are sectors in which Japan has lost advantage or would like to create it.

There have been genuine efforts at removing formal tariff barriers and other forms of direct discrimination against foreign imports. However, some of the arrangements that have given structural advantages to the Japanese in their home markets, and often in international markets, have endured. The capacity to resist foreign competitors in crucial sectors remains, even though there is a marked reduction in the government's ability to control the domestic economy. The high-technology sectors (microelectronics, machine tools, computers, and telecommunications are examples of currently contested industries) are not, in our view and that of many others, open to full foreign competition. To judge the extent of liberalization, we consider the sets of policies intended to promote "sunrise" industries.

*Policies for "Sunrise" Industries.* Japanese policy is committed to developing the industries of the future, the sunrise industries. It has avowed a determination to shift the country's industrial structure away from the base of heavy and chemical industries upon which it is currently grounded and to move toward knowledge-intensive industries.

In Part III we consider the case of telecommunications in detail. Here we look horizontally at the range of policies used to promote technology-intensive industries. These include formal government legislation and pronouncements, measures to capitalize on certain features of the domestic market structure for competitive gain, collaborative research and development (R&D) measures, subsidies and tax incentives, and, finally, measures to foster industry rationalization and the creation of cartels in designated sectors.

The important issue is whether the Japanese efforts to hurry toward the industrial future unfairly affect the development of the same industries in other countries. The question, of course, is what is "unfair." The fact of promotion is not in itself improper or illegal. Indeed, the definition of proper and improper promotion policy is unclear under the international trade rules. Discrimination against foreign firms, however, is in most cases improper. Such discrimination invokes the image of the developmental years, and this suggests to some that the domestic market is still being used as a protected preserve for government-promoted expansion. MITI's proposed software protection law, policies for satellite development, and the debate over NTT deregulation all raise concerns that

Japan intends to continue to use government policy to create advantage in world markets. In order words, the fear is that the objectives and policies of the developmental period persist, and that only the choice of sectors to promote has changed.

Policy development often begins with a "vision" usually formulated by MITI. MITI's visions (*Bijon*) are merely government-sponsored studies that present a coherent but purposely sketchy outline of likely future trends. These have served not only as public relations ventures—intended to draw attention to concerns the government deems significant—but also as tools for building a genuine consensus of expectations among those groups most directly concerned with the problems at hand. Once a political consensus has been reached, the formal legislation enacted to "give teeth" to those visions and policy statements follow.

The case of Japan's computer industries shows that these visions do not remain mere pronouncements once a broad consensus has been reached. In a series of three laws—the Law on Extraordinary Measures for the Promotion of Electronic Industries and the Machinery Industry (June 1957), the Law on Extraordinary Measures for the Promotion of Electronics and the Machinery Industry (April 1971), and the Law on Extraordinary Measures for the Promotion of Specific Machinery and Information Industry (June 1978)— the computer industry received the benefits (which are discussed in some detail below) of being named a "strategic industry" in Japan's policy scheme.

The specific policy instruments accomplish several purposes. *First*, public and private collaborative R&D measures encourage the diffusion as well as the development of technology among domestic producers. Research and development funds from the government for selected technologies serve to reduce risk, initiate competition, and signal enduring government interest. While the pool of government funds is not in itself large enough to support corporate programs, it serves to induce other investments, and corporate commitments. Such collaborative public and private R&D efforts have borne fruit for the Japanese. A noteworthy instance of this was the 67934—L. Nelson—12-4-85—Very-Large-Scale Integrated Circuit (VLSI) Technology Research Association, created by MITI and the Nippon Telephone and Telegraph Company (NTT) in 1976. Under the direction of MITI and NTT (the government telecommunications monopoly), and with the cooperation of Japan's largest private producers, the VLSI project (1976-1980) assisted Japanese firms in besting their U.S. merchant competitors by more quickly introducing the 64K dRam and moving into volume production.[5]

Government procurement has also served to develop and to diffuse technology. In this regard, the role of NTT as "creative first user"—much as the Department of Defense was in the early history of the U.S. microelectronics industry—is illustrative of the significance of government procurement in Japanese industrial policy. In addition to controlling the country's telephone and telegraph networks, NTT monopolizes all common carrier network transmission in Japan (including data transmission), offers data processing time-sharing services, licenses all communications, and runs very advanced R&D and systems-engineering laboratories in all of these areas.

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[5] There is an ongoing debate about the significance of the latest of the cooperative ventures in computers. Some, such as Ed Feigenbaum from Stanford, attributed great importance to the Fifth-Generation computer program. Others, such as George Lindamood (now with Burroughs), dismiss it as an exercise in the bureaucratic management of new technologies. However, in areas such as new materials and biotechnology, joint projects seem to have much greater potential and significance. Joint R&D has played a role in Japanese development. By grouping together Japanese firms, it has often been a barrier to foreign market entry.

Importantly, NTT is a procurer of systems in these areas from Japan's major electronics companies. NTT's policies, like the policies of some Western European countries, encourage domestic suppliers and severely restrict the purchase of imported telephone equipment. In the words of one observer:

> Technical specifications are based on design rather than performance and are written to favor the specific products of a small group of local suppliers known as "NTT Family." Because NTT does not have a manufacturing subsidiary (such as Western Electric), it obtains virtually all of its equipment for the exchange and transmission markets from members of this family of suppliers. NTT has never permitted foreign firms to join this family. NTT's practices of procuring equipment from a relatively small group of trusted suppliers is not unusual, because most Western European phone systems are supplied in the same way. However, the practice of excluding foreign firms, even foreign firms with local subsidiaries, is unusual.

We examine the telecommunications case in greater detail below.

Setting standards in order to structure and channel competition are a *second* crucial but little explored instrument of policy. For example, common operating standards in personal computers and facsimile machines have been adopted by agreement, and established in machine tools by Fujitsu Fanuc's domination of the controller market. Where such standards exist, competition is channeled away from a struggle about basic operating parameters and into products with different applications. Indeed, if this is intentional promotion—and we cannot judge clearly whether it is—it is an extremely clever use of market forces.

The fact that standards shape competition is of international concern. The international issue is how the standards are set. Product standards, often developed within MITI structure councils, serve to define the lines of an industry's evolution. American firms note that shortly after the formal promulgation of standards, products flood the market so quickly that they would seem to have been in development during the processes of adopting standards. Thus, the Japanese decision to include foreigners in structure-council deliberations is quite important.

The standard setting mechanisms raise a more general problem troubling U.S.-Japanese relations. The "transparency" issue has come to represent a thorn in the side of U.S.-Japanese trade relations. Trade negotiators from the United States have repeatedly charged that the American policymaking system is much more "transparent" than the Japanese system and that it is far easier for Japanese officials to know what is going on in Washington and to influence the course of events than it is for any foreigner to have an impact on Japan's highly private, "opaque" processes of decisionmaking.

For this reason, during January 1984, the U.S. Undersecretary of Commerce for International Trade, Lionel Olmer, succeeded in extracting concessions from the Japanese allowing American representatives access to and permission to address meetings of MITI's Industrial Structure Council. It was, he suggested, merely a matter of reciprocity, no different from the ease with which Japanese and other foreigners can lobby the U.S. government.

While there has been some optimism expressed over Olmer's achievement, it is by no means certain that it will produce any worthwhile results. For instance, even if American representatives are allowed to sit in on the Council's deliberation sessions, they will have no means to influence the decisions of MITI (its sponsoring ministry), not to mention other ministries concerned with a particular issue, or the trade associations of an industry affected by a council recommendation. Thus, although the "transparency" issue lies submerged, it may not be long forgotten.

Subsidiaries and tax incentives are a *third* category of promotional policies. Actually, the term "subsidy," as applied to Japanese industrial policy, is something of a misnomer. More precisely, subsidies are usually either grants that take the form of conditional loans (*Hojokin*), or government contracted work that takes the form of consignment payments (*Itakuhi*). Here the case of government subsidies to Japan's machine-tool industry—a case that gained notoriety in this country because of the petition for relief filed by Houdaille Industries—provides an interesting example.[6] Also, certain measures within Japan's corporate tax system are used to target specific industrial policy objectives. For example, the pattern of special depreciation measures tends to be biased toward manufacturing in general, and the measures are purposely geared to stimulate markets for types of goods for which the government would like to see greater domestic production. Aircraft is the most recent instance. The market failure of Japan's first entry into the commercial aircraft business saw the government writing off nearly $100 million in loans. Its second entry will be jointly financed by the government and a group of firms in a venture with Boeing. These loans are lower and diffuse the risk of new ventures.

Finally, policies to promote industry rationalization and to create cartels in designated industries represent a *fourth* broad category of measures designed to nurture promising new industries. In a 1973 policy statement issued by the Economic Planning Agency, the importance of industry rationalization in Japan's future growth industries is clearly articulated:

> . . . all industries should be induced to become knowledge-intensive through (1) promoting a higher degree of

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[6] Houdaille Industries—a diversified American company that manufactures, among other products, numerically-controlled machining centers and punching machines—submitted a petition for relief in 1982 to the U.S. President. Among other things, that petition claimed (and this was later substantiated) that the Japanese government was funnelling hundreds of millions of dollars worth of yen generated by wagering on bicycle and motorcycle races in Japan into the country's machinery industry, including the machine-tool cartel. For further discussion of the Houdaille case, see: Chalmers, Johnson. East Asia: Living Dangerously. Foreign Affairs, v. 62, 1984, p. 727.

> processing and higher product quality, (2) even when the finished product remains the same, attempting to make the processes of its production and distribution information-intensive, labor-saving, and pollution-free, and (3) trying to systematize vertically several industries from material procurement to processing and distribution or to establish horizontal systems unifying diverse functions.

In addition, the Japanese government has encouraged the creation of cartels in designated industries—such as machine tools—in order to avoid the pitfalls of excess competition. It is believed by many that the Japanese government aids its chosen cartels by its lax enforcement of Japan's Law Concerning Prohibition of Private Monopoly and Maintenance of Fair Trade (the Anti-Monopoly Law).

Issues of policy—that is, government intention—must be separated from matters of market structure. In the abstract, this looks simple, but in practice it is hard to do. For example, the Japanese financial system is thought to provide advantages to national firms in the form of low interest rates and longer-term financing. Yet the interest rates, and the structure of corporate lending, have been shaped by government policies. The two-tier labor market with lifetime employment and temporary labor in the same factories, to choose another example, is a product of policy choices. Inter-firm arrangements within Keiretsu often make foreign entry into the market difficult. The inter-firm holdings, Okimoto and Krasner note, increased—seemingly as a result of government encouragement—as foreigners were given permission to acquire Japanese firms. These market arrangements, in their view, could be seen as a constructed market alternative to direct policy.

It should be clear from the above discussion that, even though its power of control and intervention have diminished, the Japanese government continues to act purposely and effectively in promoting promising new industries. We do not attempt here to link these policies to the dynamics of international competition. However, our analyses of competition in a series of sectors ranging from automobiles through telecommunications and microelectronics suggest that these policies and arrangements in the domestic market contribute to Japanese strengths in world markets.

Similarly, we make no effort to evaluate systematically whether Japanese policies are internationally legitimate. We note simply that the manner in which the proposed discussion about software and telecommunications is conducted must, inevitably, affect foreign perceptions.

The issue in this complex of policy is whether the developmental system of the high-speed growth era, with its components of market closure and internal promotion, is being re-created in substance in the "sunrise" industries. In our view, although direct discrimination is now being reduced and direct government administration of the economy is receding, the arrangements that give structural advantages to the Japanese have endured.

## III. Japanese Telecommunications and Developmental Re-Regulations [7]

The role of technology policy in Japanese industrial development is clearest in a concrete case. We present here our interpretation of current Japanese telecommunications policy and development.

### A. PAST DEVELOPMENTAL REGULATION

Until April 1985, Nippon Telegraph and Telephone (NTT) was Japan's domestic, public, common carrier communications monopoly under the administrative control of the Ministry of Posts and Telecommunications (MPT). In addition to monopolizing common carrier communciations, including data transmission, NTT offers data-processing time-sharing services, licenses all communications, and runs four very advanced electronics R&D and systems engineering laboratories. Since its formation in 1952, NTT—under MPT's direction—has engaged in joint R&D and systems engineering to develop microelectronics, software, opto-electonics, and network equipment for Japan's public-switched communications infrastructure with a favored "family" of major Japanese electronics companies (NEC, Fujitsu, Hitachi and Oki).

NTT has helped to develop and finance pilot and mass production systems for manufacture of the products jointly researched and developed. Crucially, NTT has procured high volumes of equipment and systems at premium prices from its family companies—which serves both to make demand highly predictable and stable, and to subsidize price competition for those Japanese firms on export markets. It has even engaged in direct export-finance. Of course, all of these developmental activities have been closed to foreign firms. Indeed, until the 1980 U.S.-Japan Agreement on NTT Procurement, the Japanese market was formally closed to foreign producers. As will be discussed below, a substantial part of the Japanese market is likely to remain closed to foreign producers of telecommunications equipment, at least in the absence of overwhelming trade pressure from the U.S. and Europe.

It bears repeating here that the consequences of exclusion from the Japanese market have been severe and cumulative for foreign competitors. First, exclusion has meant the lost of the profit opportunities that finance R&D necessary for development of next-generation products. Exclusion also has meant a loss of opportunities to realize economies of scale that bring down cost and determine competitive position in world markets. Second, Japan is an advanced market, the scene of permanent innovation and refinement in telecommunications technology and manufacturing. The only way to stay abreast of technological change in Japan is to be present in the market. But perhaps the most important reason for being in the Japanese market is the absence of sustained foreign competition there has given Japanese companies a critical advantage in international competition. In telecommunications today, as in steel, autos and consumer electronics in the past, Japanese success on work markets has rested on the ability of Japanese producers to move rapidly to volume production with limited risk in a domestic market insulated from foreign competition.

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[7] Part III is drawn from: Borrus, Michael, Francois Bar, Patrick Cogez, Anne Brit Thoresen, Ibrahim Warde, and Aki Yoshikawa. Telecommunications in Comparative Perspective: The New Telecommunications in Europe, Japan and the U.S. Berkeley, Berkeley Roundtable on the International Economy, May 1985. Footnotes are omitted.

In essence, then, NTT's industrial policy role has enabled favored Japanese telecommunications companies to develop and commercialize new technologies in a protected and subsidized, risk-minimalized way. With NTT coordinating common standards development and allocating markets among its favored family, Japanese producers developed a small number of related product families that share common components and automated production facilities, and hence lower overall costs. When combined with procurement from NTT in high volumes at premium prices, the costs of the resulting equipment have been driven to or below world levels, enabling rapid competitive penetration of world markets by major Japanese firms. As data processing and telecommunications have converged, NTT has emerged as an important element in electronics development.

There are numerous examples of the impact of NTT's developmental role in helping to establish Japan's telecommunications equipment producers as world competitors. The example of fiber-optic light-guide is illustrative. In the early 1970s, Corning Glass held generic patents on the production of light-guide and attempted to register its patents in Japan prior to moving into Japan through licensing or export (as it did in Europe). The patent applications were administratively stalled in Japan for ten years. During that time, NTT entered into a crash development program with its family of favored cable producers, Sumitomo, Furakawa and Fujikura, to develop a different mass-production method for light-guide, the vapor-phase axial deposition (VAD) method. NTT then entered into high-volume, premium-price procurement at levels far above its own immediate needs. This forced Japan's cable producers to reach a scale of production that brought their costs below world market levels, created excess capacity destined for export, and provided the profits to subsidize price competition on world markets. Indeed, in 1983, Japan's total fiber market was estimated at about 60,000 fiber kilometers while Japanese producers had an estimated production capacity of 575,000 fiber-km; and NTT was paying Japanese producers a price some 3–4 times higher than they were selling in the United States. Today, the Japanese industry is a highly competitive world-class producer of light-guide.

Quite similar stories with similar competitive outcomes are true of Japan's push to become a leading producer of opto-electronic components for fiber-optic transmission, where NEC and Fujitsu were chosen as the favored suppliers, and of microwave transmission equipment, where NEC was chosen as the leader. The same story is true of fast facsimiles, where NTT pioneered development in data compression, solid-state array scanning, and printing techniques, and then transferred the technology to Japanese producers. In each case, the Japanese producers are currently among the world's leading suppliers. Procurement of high volumes at premium prices, and component/subsystem production shared across product families, permitted Japanese firms to recoup high R&D costs early in the product cycle in their closed home market. By the time they hit world markets, Japanese costs were substantially below the prevailing levels of their competitors, who needed to price to recoup development costs.

The contrasting example of Japan's relative failure in digital switching equipment markets also illustrates how critical the NTT development system has been for Japanese firms. NEC entered the U.S. digital central office switch market relatively early in 1979 with its NEAX 61. After a quick start in sales to smaller independent and rural telcos primarily as a result of its habitual lowest-bid pricing strategy, NEC ran into trouble largely because of software problems with the switch. It was in fact forced to rip out the switches it had installed for Rochester Telephone, a larger independent. NEC ran into problems primarily because it had not had a chance to install and debug digital central office switches in Japan. This, in turn, was the result of NTT's late move to digital switching for Japan's public network—it began commercial installation and testing of the D70 digital central office switches in Japan only in 1984. Indeed, the NEAX 61 was an export-only switch, the result of early prototype development by NEC with NTT for export markets, and was never destined for use in Japan. In short, without the benefit of procurement and use in a closed domestic market, NEC was at a decided disadvantage in competition on world markets.

### B. JAPAN'S CHANGING SITUATION

Changes in NTT's role are occurring, however. On April 1, 1985, the Nippon Denshin Denwa Kabushiki Kaisha Law (the new NTT Law) went into effect. The new NTT Law is a substantially watered-down implementation of reforms recommended by Japan's Second Ad-Hoc Commission on Administrative Reform in its Basic Report of July 1982. The Commission had recommended that NTT be divested in a form roughly paralleling the break-up of ATT in the United States—a central company was to control the trunk lines network, and local companies were to operate local services; the government was to hold 100 percent of an initial stock offering, but then sell off up to 49 percent of ownership to Japanese holders over time; new entrants were to be permitted to compete with NTT in the delivery of enhanced and some common carrier services.

The new NTT law scraps plans to divest NTT into the central and local companies, but implements the stockholding and (in conjunction with the new Business Communications Law) liberalization of competition reforms. Thus, the new NTT will be initially held 100 percent by the government, which will gradually cede ownership (with the approval of the Diet), while always holding one-third or more of the shares. Critically, no foreigners of foreign companies will be permitted to buy stock, although a Japanese company held less than 50 percent by foreign interests will be technically eligible as a shareholder. Moreover, NTT will now be free to compete aggressively in the delivery of enhanced services in the Japanese market (see next section on competition in value-added networks)—and may even be permitted to de-average its rate structure in order to compete with potential common carrier entrants on high density voice and data transmission routes (e.g., Tokyo-

Osaka). When the new NTT law goes into effect, NTT will be one of the largest companies in Japan, with about $40 billion in assets and annual revenues approaching the $20 billion mark.

Procurement by the new NTT accounts for about 45–50 percent of Japan's total domestic telecommunications equipment market; valued at $4.5–5.5 billion in 1984. Roughly another 10–15 percent of the market is accounted for by purchases of other governmental or quasigovernmental institutions (including Japan's small international carrier KDD, the Japan Rail and Highway authorities, the Defense Agency, the local governments). The private sector thus accounts for about 35–40 percent of the total telecom equipment market in Japan, virtually all of which is open market purchases of interconnect terminal equipment. The total interconnect market (NTT and open market terminal sales), valued at about $2 billion in 1984, is broken out in Table 1.

TABLE 1.—*Japanese interconnect market*

| *Equipment* | *Percent of total* |
|---|---|
| Data terminal | 29 |
| Facsimile | 26 |
| Key telephone systems | 21 |
| Telephone sets | 8 |
| PBXs | 4 |
| Other | 12 |

Source: Nippon Telegraph and Telephone.

In 1984, Japanese producers exported an additional $2 billion of equipment, bringing domestic Japanese telecommunications equipment production roughly to the $6.5–7.5 billion level.

The total equipment market has been mostly closed to foreign firms until recently, with NTT controlling technical approval of both network and interconnect equipment. Until the U.S.-Japan Agreement on NTT procurement was implemented starting in 1981, for example, less than one-half of one percent of NTT's annual procurement had gone to foreign firms, and no foreigners were certified to supply interconnect equipment. Since the U.S.-Japan Agreement, a few foreigners have received interconnect approval (mostly for PBXs) and NTT procurement from foreign firms has risen steadily, if not dramatically, from about $15 million in 1980 to about $180 million in 1984. With the exception of a few PBXs, telephone handsets, one transportable digital switching system, pocket bell pagers, multiplexers, and satellite communications components, there has been no procurement of foreign telecommunications equipment—despite the acknowledged competitiveness of big-ticket items like digital switching equipment made by U.S. and other foreign producers like ATT, Northern Telecom, and Ericsson.

Most of NTT's current foreign procurement consists of telephone poles, magnetic tape, copier paper, data processing components, peripherals, computers and systems, and semiconductor manufacturing and test equipment. Thus, despite years of pressure from the U.S. government and the U.S.-Japan Agreement, the Japanese market for telecommunications equipment still seems to be largely closed to U.S. and foreign firms.

The U.S.-Japan Agreement was renewed for three years in December 1983, and it was hoped that the renewal would help more fully to open the Japanese market to U.S. suppliers. Since the renewal, Rolm and ITT have sold a few PBXs, ATT many small computers, and Cray a supercomputer. However, imports of U.S. communications equipment actually declined in 1984, by some 3.7 percent to $110 million. It is in this context that the new NTT law gains added significance. As the government's ownership of NTT is reduced over time, it is possible that NTT's procurement will fall gradually out from under the coverage of both the U.S.-Japan Agreement and the GATT Code on Government Procurement.

In this context, and as competition to NTT in the delivery of services develops in Japan (see the next sub-section), a critical question is whether NTT will continue its comprehensive developmental role for Japan's equipment producers. Current NTT projects suggest that role will probably continue. For example, the aim of NTT's ambitious Information Network System project (INS) is to create by the year 2000 a fully integrated, digital communications infrastructure for Japan, linked by broad-band fiber optic cable and microwave equipment. INS is Japan's full-blown vision of ISDN. In essence, INS aims to put a digital, broad-band infrastructure in place *in anticipation* of its uses, while simultaneously developing those uses through model programs and pilot projects targeted at business and residential users. In order to understand the planned evolution to INS, a brief review of NTT's existing networks and services is necessary.

NTT operates four separate major networks for communications services in Japan, each of which has been developed independently. These include the PSTN (wireline and radio), the telegraph (telegram and telex) network, digital data networks (DDX), and a digital facsimile network. The PSTN's transmission facilities are largely analog metal cable and microwave, with the exception of some digital co-ax trunks and the recently completed fiber-optic truckline backbone. Virtually all of Japan's 5,000–6,000 switches are either crossbar or analog. Commercial testing of the D60 digital toll switch ended in 1983, and commercial installations have since begun; the D70 digital central office switch is just now undergoing commercial tests. As in all of the industrialized countries, growth in Japan's PSTN subscriptions is slow but stable at about 3 percent annually. This contrasts with annually declining subscriptions for the telex network since the mid-1970s (vs. continuing telex growth in Europe), as users continue a rapid shift to the facsimile and data services delivered over the PSTN, DDX, and FAX networks.

Over the PSTN, NTT offers three types of data services, a facility service (in which NTT supplies both leased circuits and data equipment), a leased circuit service (comparable to private lines in the U.S.), and a public network circuit service over PSTN telephone lines. An analog facsimile service is also available over the PSTN, as is a leased circuit video-conferencing service started in 1984. The separate DDX networks offer both circuit-switched (DDX–C) and packet-switched services (DDX–P), with the latter inaugurated in 1979 and the former in 1980. DDX is fully digital, as is the FAX network. Overall, use of NTT's data communications services have been growing rapidly in the 1980s. Leased data communications circuits have averaged 15–25 percent annual growth, and subscriptions for the DDX and FAX networks have doubled or tripled annually. Finally among commercial value-added network (VAN) services provided by NTT over phone lines, the CAPTAIN (Character and Pattern Telephone Access Information Network) videotext service began full-scale commercial operation in Tokyo and Osaka in November 1984.

Given this background, the INS network will evolve from the gradual unification of these independent digital data and facsimile networks with the public switched telephone network (as it digitized). Most critically, aside from extending the fiber-optic trunk network, NTT intends to move aggressively to revamp the local loop network by installing and digitizing fiber-optics as part of the INS evolution. In September 1984, NTT completed construction of a fully digital, model INS system in the Mitaka-Musashino suburb of Tokyo. By April 1985, about 600 individuals and companies were taking part in the model experiment. Several services are available in the model INS experiment. Several parallel projects—some of them implemented in pilot form in the model INS—are also underway to develop equipment and services that can take advantage of the INS infrastructure. These include interactive visual communications networks (NTT's Video Response System, or VRS), integrated voice-data and voice-video equipment, optical scan document terminals and fast mini-faxes, and optical instrumentation and control systems for industrial and office applications.

It is estimated that the entire INS project will require between $80 to $120 million in investment over the next 15 years. Estimates of the markets for INS-related private investment and products (including terminal equipment and software) approach $250 billion. Given the huge size of these markets, INS offers enormous leverage for NTT to continue its developmental role to the advantage of Japanese producers. Since the INS project began, NTT has worked almost exclusively with favored Japanese suppliers to develop the current and next generations of equipment and software necessary to implement INS. This has occurred despite demonstrable superiority held by U.S. and other foreign producers in many of the advanced technologies required.

Equally important, INS and related projects provide a vision to galvanize the efforts of Japan's major electronics firms in their development of new generations of interconnect equipment. Digital TV's with a broad array of interfaces to communications networks, already on the market in Japan for the last two years, are just the first indications of innovative terminal equipment being developed in Japan. As the projects outlined above suggest, Japanese producers like NEC, Fujitsu, Matsushita, Hitachi, Mitsubishi, JVC, and Sharp will be extremely strong in terminal equipment segments of the communications market that draw on optical and audio technology.

Moreover, drawing on the procurement leverage that implementation of INS will provide, large Japanese producers like NEC, Fujitsu, Sumitomo and Hitachi—and smaller ones like Furukawa and Taisei in specific niches—will be world-class producers of opto-electronic components and transmission equipment as a result of the INS and related project focus on broad-band fiber-optic communications. NEC and Fujitsu are also likely to re-emerge as key world players in digital switching as Japan's public-switched networks are digitized. And NEC in particular will be a leading producer of integrated electro-optical communications systems.

Indeed, demand pull from the telecommunications changes in Japan, driven by NTT's plans and developmental assist, is rapidly establishing the Japanese opto-electronics industry as a force to be reckoned with on world markets. Official Japanese figures put the domestic Japanese opto-electronic market at about $1.8 billion in 1983, including sales of components like LEDs ($250 million), lasers and photoreceptors ($126 million), optical fibers and communications equipment ($292 million) and systems ($219 million). Japanese producers, led by NEC and Fujitsu, are estimated to hold about 40 percent of the world market for opto-electronic components, and a much smaller but growing share of the communications equipment and systems markets. Indeed, as Table 2 suggests, the domestic Japanese market for the latter two sectors are projected to grow much more rapidly than for components as INS proceeds.

TABLE 2.—JAPAN'S OPTO-ELECTRONICS INDUSTRY

[Dollars in billions, percent of total]

| | 1983 | 1985(p) | 1990(p) | 2000(p) |
|---|---|---|---|---|
| Components | $0.96<br>(55%) | $0.79<br>(22%) | $1.67<br>(19%) | $10.77<br>(22%) |
| Equipment | $.58<br>(33%) | $2.29<br>(62%) | $5.56<br>(64%) | $20.56<br>(42%) |
| Systems | $.21<br>(12%) | $.59<br>(16%) | $1.42<br>(17%) | $17.52<br>(36%) |
| Total | $1.75 | $3.67 | $8.65 | $48.85 |

Note.—Conversion at 245 Yen/Dollar. (p)—Projected.

Source: Japan Opto-electronics Industry Development Association, Annual Survey, FY 1983.

INS and the developments outlined above suggest that, even after privatization, NTT's developmental role will continue, at least for next-generation network equipment and opto-electronics. However, there are also signals that in some areas that developmental role will be more limited than in the past, especially as NTT enters that market competition with its "family" companies, in particular NEC and Fujitsu (see next subsection). For example, although the data are sparse, it appears that the percentage of NTT procurement accounted for by NEC, Fujitsu, Oki, and Hitachi has fallen from 60 percent in 1978 to about 45–50 percent in 1983 (although the value of this procurement has remained relatively constant). This tendency toward diversification of NTT's supplier base suggests that opportunities for U.S. and other foreign firms to participate in NTT procurement may well yet emerge.

A critical variable in this regard will be whether the Ministry of Posts and Telecommunications (MPT) will push NTT to continue its development role, or permit it to continue to diversify its procurement. Paradoxically, the existence of common carrier and VAN competition to NTT may well strengthen MPT's hold on NTT, since it can use the excuse of competition as justification for continued regulatory intervention. Indeed, as the analysis so far indicates, continuing regulations with a self-conscious development intent will remain a vital part of Japan's telecommunications landscape, despite NTT's privatization. This is equally true with Japan's liberalization of competition in services, to which we now turn.

### C. THE BUSINESS COMMUNICATIONS LAW AND SERVICES COMPETITION

Since 1971, MPT has gradually relaxed restrictions on telecommunications in the domestic Japanese market, to take account of demands from large business users and the convergence of data processing and communications. A revised telecommunications law in 1971 provided a legal basis for data communications, permitting users to connect with the public network and with leased lines (in some cases, only with the approval of MPT). However, message switching (the most simple kind of value-added network—see below) was prohibited. In 1972, facsimile machines were permitted interconnection. In late 1982, most remaining restrictions on the use of data communications circuits were lifted. Users could make joint use of data circuits, establish third-party ties into two-ways links between computers and I-O devices, and set up data processing interfaces between the PSTN and leased circuits.

Under a ministerial ordinance in 1982, MPT also liberalized some portions of the value-added network market, permitting limited VAN services for small and medium enterprises, including internal corporate VANs for affiliated enterprises (e.g., Fujitsu F.I.P. provides administrative information exchange among Fujitsu-related software development companies). Of course, permitting internal corporate VANs provided the major Japanese corporations who might compete in a fully deregulated VAN market with substantial in-house experience in setting up and running VANs. In this simple way MPT policy helped prepare Japanese firms for the coming full deregulation of VANs, while simultaneously denying to foreign firms the same opportunities. Again, the characteristic developmental re-regulation is evident.

The new Business Communications Law takes liberalization a step further by partly deregulating common carrier communications and the VAN market in Japan, and even operating the latter to foreign competition. The law permits common carrier competition to NTT by Japanese nationals, but bars foreign owned or controlled corporations from the common carrier market. Several new common carrier entrants have begun to build competing networks, and several others are waiting in the wings. Table 3 summarizes these new competitors to NTT. All of them initially are focusing on the lucrative Tokyo-Osaka route, which carries about one-quarter of Japan's total telecommunications traffic, and accounts for about 40 percent of NTT's service revenues. Just as has been the U.S. experience, it will take many years of careful nourishing before any of these new entrants become appreciable forces in Japan's telecommunications market. However, their plans to build competing networks should add to Japan's growing network equipment market, creating a new source of non-NTT demand. And DDK in particular is apparently planning to purchase equipment from foreign suppliers.

TABLE 3.—NTT'S COMMON CARRIER COMPETITORS

| Carrier | Technology | Ownership |
|---|---|---|
| Daini Denden Kikaku (DDK) | Microwave | Kyocera, Sony, Mitsubishi, Secom, 200 others. |
| Teleway Japan | Optical Fiber | Japan Highway Authority, Toyota, Mitsui, Sumitomo, 46 others. |
| Nihon Telecom | Optical Fiber | Japan National Railways. |
| (In Planning) | Satellite | Keidanren. |

Source: Economist, Mar. 30, 1985.

The new Law also permits competition among foreign and domestic Japanese firms in enhanced communications services like VANs on lines leased from common carriers. In addition to the 96 existing operators of small-medium VANs (of which 20 are intracorporate) that were automatically granted VAN status under the new law, at least 15 additional VANs have applied for permission or plan to operate. Table 4 summarizes these entrants as of April 1985.

TABLE 4.—*Japan's new value-added network entrants*

| | |
|---|---|
| Japan ENS Telecom. | 16 Major Companies and NTT, KDD. |
| Intec, Inc. | |
| Japan Information Service Ltd. | |
| Fujitsu. | |
| NEC. | |
| Sanyo System Center Company. | |
| Hitachi Information Network. | |
| Voicemail Japan, Inc. | |
| Japan Airlines Co. | |
| C. Itoh & Co | With United Net Corp. |
| IBM | With Mitsubishi. |
| IBM | With SECOMNET. |
| ATT | With Mitsui and 16 others. |
| Geisco | With NEC. |
| Philips | With Kyocera. |

Note: Geisco = General Electric Information Services Co.

Sources: Japan Economic Journal, Financial Times, Economist, various issues.

Critically, entry in the VAN market is subject to regulatory control by MPT, in the form of either registration or "notification" requirements, depending upon the precise communications services offered. Thus, while entry into the VAN business is ostensibly deregulated, any potential entrant must either register or notify MPT of its intent to offer VAN services. Crucially, neither registration nor notification is self-activating; rather, they require a responsive action from MPT.

In effect, then, MPT permission to operate must actually be obtained. There are broad grounds in the new legislation permitting the Ministry discretion in approving or disapproving entrants to the market. Moreover, the requirements also apply to any changes in the services offered. Thus, the Ministry retains the power to prevent the expansion of VAN operations. Hence, even though foreign firms are permitted for the first time to offer VAN services on the Japanese market under the new law, MPT will have the final say over which firms offering what kinds of services are permitted to operate.

This is an interventionist rather than merely regulatory power. MPT's decisions permitting or denying VAN operations will structure the VAN market in Japan. In the absence of strong pressure from outside Japan, it is not hard to envision the Ministry structuring that market to the advantage of Japanese firms. Its continued power to do so suggests the degree to which re-regulation characterizes the liberalized market.

MPT fought long and hard against MITI to win the new law's notification and certification requirements. During the battle, MPT was forced to drop a proposed 49 percent limitation on foreign ownership of VANs in Japan—in part because of strong opposition from the United States. Nevertheless, MPT's victory in winning the power to screen applications over MITI's objections (combined with MITI's defeat by the Ministry of Education over MITI's proposed software law) reflects a partial reshuffling of policy control over the emerging information economy within the Japanese bureaucracy, and suggests some of the limits of MITI's power in Japan.

MITI had wanted VANs to be considered as information processing subject to its own administrative guidance, and thus called for complete deregulation of the VAN market in Japan. By contrast, MPT wanted to extend its own jurisdictional authority into the information processing realm, implicitly at MITI's expense. Because the distinction between VANs and data/information processing networks is increasingly less tenable from a technological standpoint, future policy over the evolution of Japan's information-based economy lies hidden in the MPT-MITI fight over the new law. We can expect many similar bureaucratic battles over the next few years as information networking evolves in Japan. And, whatever the outcome of those battles, interventionist re-regulation toward developmental ends will be a continuing characteristic of policy.

### D. DEVELOPMENTAL RE-REGULATION

Taken together, the new telecommunications law and the ambitious development plans described above constitute a developmental re-regulation of the sector that is quite extraordinary in its self-conscious strategy. In the past, compared to the United States, Japan has been relatively slow to develop new services and equipment—with the exception of facsimile. Digital data services were developed only in the 1980s, and digital equipment for—and installation in —Japan's PSTN has similarly lagged behind developments in the United States. Indeed, until very recently, Japan's telecommunications development has more closely paralleled the evolution in Europe rather than that of the United States. However, Japan's current developmental re-regulation of telecommunications augurs drastically accelerated development of the sector in comparison to Europe. And it augurs a substantially faster nationwide, broad-band integration of digital communications—right up to each subscriber's door—than will occur in the United States. If accomplished, Japanese small business users and home consumers will have substantially more complete access to a wider range of information services than will the Europeans and all but the largest U.S. users.

In this context, a word about Japan's developing VAN market is appropriate here for the light it sheds on Japan's strategic re-regulation of telecommunications. Since the partial VAN liberalization in 1982, through a combination of incentives and spending, Japanese policy has brought together small business users and providers of VAN services. The aim has been to develop application-specific VANs tailored for the needs of related groups of small users. By thus forcing the aggregation of demand from related but diffuse users, for example, small software houses engaged in parallel software development or small distributors of related products, Japanese policy has sought to capture social gains and industry-specific competitive advantages which a deregulated market alone would have missed or developed only more slowly. The parallel is clear to Japan's effort in INS to put a digital, broad-band infrastructure in place in anticipation of its uses, while simultaneously developing those uses through model programs and pilot projects targeted at businesses and residences. The contrast to U.S. deregulation is also quite clear.

Similarly, the ambitious Japanese moves toward digital network integration, and continued regulatory control over foreign access to the Japanese market, are galvanizing the communications equipment efforts of Japanese producers. Drawing on optical and audio technology know-how—in which they are clear world leaders—Japanese producers will be formidable competitors to U.S. and European firms in a range of communications equipment. This will be particularly true in innovative terminal equipment, opto-electronic components, and transmission equipment. While Japan's much-noted weakness in software will slow the success of Japanese producers on international markets for digital switching and integrated communications systems, the growth of the domestic Japanese market in these areas will provide important opportunities to leverage international position.

# POSITIVE ADJUSTMENT POLICIES TOWARD DECLINING INDUSTRIES IN JAPAN

By Margaret A. McGregor and Katherine V. Schinasi

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## I. INTRODUCTION

Japan's growth as a major industrial power during the post-World War II period has prompted many observers to study its success in manufacturing products and taking over markets traditionally dominated by the United States and other developed countries. These studies have focused on business practices and government policies designed to keep Japan on the "leading edge" in international trade and commerce.

This paper examines another facet of Japan's industrial policies—the government's attention to the declining industries. In this paper, we examine the conditions which have prompted increasing government involvement on an industry specific level, the general approach the government has taken towards the problems of declining industries, how these programs have been put into effect and worked in practice, and the implications for Japan's trading partners. We offer some concluding observations on different approaches to the problems of declining industries used by Japan, the United States, and the European Community.

## II. SUMMARY

During most of the post-World War II period, Japan has focused much of its economic assistance on building internationally competitive industries. Beginning in the mid-1970's, however, events in the international economy and a growing number of important Japanese industries in trouble caused the government to increase efforts to help the adjustment of a number of basic materials industries. Basic industries use primary products and supply processing and assembly industries. The Japanese market for basic industries covered under current programs is about $80 billion.

Generally speaking, the underlying premise of Japan's approach to declining industries is to supplement rather than supplant market forces. Legislation, passed in 1978 and modified in 1983, calls for the development of specific adjustment plans, on an industry by industry basis, which delineate the parameters of government assistance and company responsibility.

Although most industries have successfully met capacity reduction targets, the government, as represented for the most part by the Ministry of International Trade and Industry (MITI), has been unhappy with the overall success in moving resources out of less productive activities and into more productive ones.

MITI's solution, opposed by other parts of the government and some in industry, has been to push for stronger authority. The resulting statute, which went into effect in 1983, broadened MITI's powers to permit the Ministry to recommend sweeping changes in an industry including establishment of joint activities and mergers. At the same time, the oversight powers of the Japan Fair Trade Commission (JFTC) were likewise expanded to ensure that MITI proposals under the law do not have a negative effect on competition. MITI proposals for industry restructuring are put into play through structural readjustment plans submitted to and approved by MITI's advisory body—the Industrial Structure Council.

The government provides assistance to firms in depressed industries in three basic areas: funding, tax incentives, and research and development support. In addition, the government has enacted specific laws to assist depressed regions, workers in depressed industries, and small- and medium-sized firms. Firms in depressed industries have demonstrated that private industry has the initiative, ability, and flexibility to make necessary large-scale employment adjustments.

Although administrative guidance, tariffs, and quotas have all been used to some extent for industries in general, the Japanese government has tended to avoid the use of import protection for declining industries. Instead, the Government provides financial and tax incentives to shift resources out of unprofitable, uncompetitive sectors. Japan's trading partners, particularly the United States, have argued that Japan's adjustment policies may be in contravention of international agreements.

In contrast to policies of the European and U.S. Governments, which rely heavily on import protection to maintain current levels of operations and employment, Japan, being export dependent, cannot afford to maintain a large number of noncompetitive industries and, therefore, focuses considerable effort on moving resources out of these sectors. Nevertheless, as the number of declining industries in the developed countries of Japan, Europe and the United States grow and competitive pressures from the newly industrialized countries increase, there are some indications that the approaches of these countries to declining industries are converging.

## III. WHAT HAS PROMPTED GOVERNMENT ASSISTANCE TO DECLINING INDUSTRIES?

During most of the post-World War II period, Japan has focused much of its economic assistance on building internationally competitive industries. Industries losing ground were few and isolated, and government assistance was limited to addressing their specific problem.

Beginning in the mid-1970s however, this began to change. Revised government thinking was prompted by events in the international economy, which had a major impact on Japan, and by the central role played by troubled industries in Japan's industrial structure. Further, labor problems, exacerbated by demographic changes, brought increased government attention to the role it played in labor policies.

### A. THE ECONOMIC CLIMATE

Although less affected than other developed countries, Japan's growth has slowed over the last several years. For a country which imports 80 percent of its energy requirements and exports 16 percent of its GNP, the oil shocks and surrounding international climate during the last decade had a dramatic impact. The group of "basic materials industries" were particularly hard hit by the rise in imported energy prices on which Japan is heavily dependent, decreased domestic and international demand, increased competition from lower wage developing countries for Japanese companies at home and in third country markets, and increased protectionist actions which affected Japan in its major export markets. Increased energy costs have affected the electric furnace steel industry, the synthetic fibers industry, and the aluminum and plastic industries. Decreased domestic and international demand has affected the steel, shipbuilding, and paper and paperboard industries. Increased competition from lower wage, developing countries has affected the textile, steel and shipbuilding industries. In addition, increased protection against Japan's exports have started to affect many of Japan's extremely successful manufacturing industries.

The negative impact of these factors across a wide range of industries led to greater concern on the part of the government and greater involvement in the depressed industries beginning in the late 1970s.

### B. THE INDUSTRIES

The industries currently characterized as declining or depressed basic materials industries use primary products to supply processing and assembly industries. The Japanese market for those industries covered under Japan's current programs has been estimated at about $80 billion.

More specifically, the legal definition of a depressed industry includes the condition that at least half of current operating costs be due to energy and raw materials and include those industries listed in Table 1. Firms in these industries are often located in small towns, support numerous small- and medium-size companies as suppliers and subcontractors, and are important job providers. The industries are heavily dependent on domestic demand and are therefore affected by the fact that consumption of basic materials per unit of GNP over the last 10 years have decreased by about 30 percent on average due to price escalation, technology, and changing consumer preferences. Table 1 illustrates the performance of the basic materials industries since the early 1970s.

## TABLE 1.—PERFORMANCE IN MAJOR MATERIALS INDUSTRIES, 1973–1981, SELECTED YEARS

| | Production | | | Production annual increase (percent) | | | Operating ratio (percent) | | | Current profit (yen in billion) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1973 | 1978 | 1981 | 1973–78 | 1978–81 | 1973–81 | 1973 | 1978 | 1981 | 1973 | 1978 | 1981 |
| Oil (mil. kl) volume of crude oil processed | 262 | 249 | 205 | −1.0 | −6.3 | −3.0 | 89.7 | 72.3 | 59.5 | 14.3 | 18.4 | 142.1 |
| Petrochemicals (ethylend equivalent) | 4,136 | 4,523 | 3,596 | 1.8 | −7.4 | −1.7 | 83.2 | 74.1 | 58.9 | 36.5 | 15.6 | −16.0 |
| Steel (crude steel equivalent) | 120,017 | 105,059 | 103,029 | −2.6 | −0.6 | −1.9 | 81.6 | 70.8 | 65.4 | 304.2 | 204.9 | 390.9 |
| Electric steel (bars and small- to medium-shaped steel | 14,755 | 14,167 | 14,012 | −0.8 | −0.4 | −0.6 | 89.9 | 85.4 | 79.8 | 24.3 | 25.6 | −3.7 |
| Aluminum (new ingots) | 1,082 | 1,023 | 655 | −1.1 | −13.4 | −5.9 | 87.4 | 62.3 | 58.5 | 0.6 | −0.2 | −11.6 |
| Paper | 8,477 | 9,439 | 9,974 | 2.2 | 1.9 | 2.1 | 114.0 | 97.4 | 89.2 | 54.7 | 27.8 | 4.8 |
| Paperboard | 8,151 | 7,296 | 7,084 | −2.2 | −1.0 | −1.7 | 107.9 | 77.7 | 70.9 | 12.9 | 7.2 | 10.7 |
| Synthetic fibers (yarn equivalent) | 1,118 | 1,155 | 1,124 | 0.7 | −0.9 | 0.1 | 95.2 | 87.9 | 81.6 | 174.4 | 60.8 | 66.7 |
| Cotton (yarn equivalent) | 551 | 468 | 450 | −3.2 | −1.3 | −2.5 | 96.0 | 92.9 | 89.6 | 95.6 | 41.2 | 11.4 |
| Cement | 78,250 | 85,828 | 83,605 | 1.9 | −0.9 | 0.8 | 82.2 | 74.0 | 71.5 | 25.2 | 31.2 | 13.1 |
| Ferrolloys | 2,088 | 1,586 | 1,597 | −5.4 | 0.2 | −3.3 | 91.6 | 51.6 | 58.8 | 1.1 | −1.2 | 0.7 |
| Chemical fertilizers (ammonia, urea) | 7,371 | 4,999 | 3,588 | −7.5 | −10.5 | −8.6 | 83.2 | 58.5 | 63.1 | 25.5 | −1.7 | −11.2 |

Note: current profit is only for major companies listed on the Tokyo stock exchange. Except for oil production, units are in thousands of tons. Operating ratio is capacity utilization.

Source: Industry figures: Fuji Bank, Tokyo.

## IV. The Philosophy

Japan describes its approach to declining industries as one of "positive adjustment." Positive adjustment, as defined by the Organization for Economic Cooperation and Development, is the gradual response of a dynamic economy, in resource allocation, to changes in:

—taste and pattern of demand, for example, away from goods and towards services
—technology
—relative costs and prices, for example, energy or price changes reflecting differential productivity growth
—comparative advantage among countries
—composition of the labor force [1]

Generally speaking, the underlying premise of Japan's approach to declining industries is to supplement rather than supplant market forces. This is evidenced in a number of ways. First, the emphasis of direct government assistance is on small- and medium-sized firms which are often without the market power and resources to shift production on their own. Second, the relationship between the public and private sectors under provisions of the law is such that the government bears only partial responsibility for adjustment, and any assistance is conditioned on certain actions by private companies.

Finally, in contrast to policies directed toward emerging industries, the government has avoided adopting long-term protective trade measures in an attempt to let competitive pressures from imports spur adjustments in declining industries. More recently, this approach has been evident in Japan's increasing interest in attracting foreign investment in plant and equipment in declining sectors.

## V. The Practice

Japan's implementation of its policy objectives begins in legislation, passed in 1978 and again in 1983. The depressed industries laws and examples of specific industry implementation of the provisions of these laws provide fairly clear evidence of Japan's policies. The laws call for the development of structural adjustment plans on an industry specific basis. Companies agree to take certain actions in exchange for various types of government assistance. MITI's goal throughout this period has been essentially the same—to reduce costs and excess capacity in an orderly fashion.

### A. LEGAL COVERAGE OF DEPRESSED INDUSTRIES

The first legislation in Japan that addressed the problems of a large number of declining industries was the Structurally Depressed Industry Law of 1978. Under that law, 14 industries petitioned the government to be designated as structurally depressed. The parameters of government assistance and company responsibility were outlined. The emphasis of the law was to bring supply and demand into balance by decreasing production. The government publicly announced targets for scrapping, based on its forecasts of supply and demand, with which the industry was supposed to comply. The government's role was to be limited to a five-year period during which the law was in effect.

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[1] Organization for Economic Cooperation and Development. The Case for Positive Adjustment Policies. Paris, OECD, 1979. p. 81.

The primary mechanisms of the law to achieve structural adjustment were designed to encourage temporary or permanent capacity reductions. An assessment of stabilization plans and statistics showing actual and planned capacity reductions leads to the conclusion that in this area, the statute was a true success. With the exception of cotton-spinning, all of the designated industries came within 90 percent of meeting capacity reduction goals, while half of those designated met or exceeded these goals. Table 2 illustrates the success rates.

TABLE 2.—REDUCTION IN PRODUCTION CAPACITY 1978–81 IN SPECIFIED DEPRESSED INDUSTRIES

[Unit: 1000 tons/year]

| | Production capacity 1978 | Target reduction | | Actual reduction | Capacity eliminated (percent) | Target performance (percent) |
|---|---|---|---|---|---|---|
| | | Number | Percent | | | |
| | (A) | (B) | | (C) | (C/A) | (C/B) |
| Open Hearth: | | | | | | |
| Steelmaking | 20,790 | 2,850 | 14.0 | 2,720 | 13.1 | 95.4 |
| Aluminum smelting | 1,462 | 530 | 32.0 | 890 | 61.5 | 169.6 |
| Nylon fiber (continuous) [1] | 366.7 | 71.5 | 20.0 | 72.9 | 19.9 | 102.0 |
| Polyacrylnitrate fiber (continuous) | 430.5 | 73.2 | 17.0 | 95.5 | 22.2 | 130.5 |
| Polyester fiber (continuous) [1] | 349.8 | 36.8 | 11.0 | 36.6 | 10.5 | 99.5 |
| Polyester fiber (discontinuous) | 397.5 | 67.6 | 17.0 | 70.7 | 17.8 | 104.6 |
| Urea [1] [2] | 3,985 | 1,790 | 45.0 | 1,670 | 41.9 | 93.3 |
| Ammonia [1] [2] | 4,559 | 1,190 | 26.0 | 1,190 | 26.1 | 100.0 |
| Phosphate (wet) | 934 | 190 | | 174 | 18.6 | 91.6 |
| Cotton spinning [2] | 1,204 | 67.1 | 5.6 | 52.3 | 4.3 | 77.9 |
| Worsted yarn [1] spinning | 181.7 | 18.3 | 10.1 | 17.6 | 9.7 | 96.2 |
| Ferrosilicon | 487 | 100 | 20.5 | 100 | 20.5 | 100.0 |
| Corrugated paper board [1] | 7,549 | 1,147 | 15.2 | 1,083 | 14.3 | 94.4 |
| Shipbuilding | 9,770 | 3,420 | 35.0 | 3,580 | 36.3 | 104.7 |

[1] Excess capacity cartels authorized under the Depressed Industry Law.

[2] Depression cartels authorized by the Fair Trade Commission under the Antimonopoly Law.

Source: Upham, Frank K. Legal Framework of Structurally Depressed Industry Policy. The Program on U.S.-Japan Relations Annual Review 1982-83. Cambridge, Mass., Harvard University, pp. 148-49.

Despite these successful targeted reductions, the process did not restore economic health to most industries under the plan. MITI had several failures during the first laws' tenure. In the electric furnance steel and ferroalloys industries, MITI's attempts to save the industry through the formation of cartels was unsuccessful. Further, MITI had been unable to get total industry participation in all of the restructuring plans. For example, in the paper and paperboard industries, 22 firms not party to the agreement increased their market share during a period of general capacity reduction. In some instances, successful capacity reduction under the plans was not sufficient to restore the health and competitiveness of the industry, and in others, international events made the government's original projections of supply and demand inaccurate.

For these reasons, MITI lobbied strenuously for the passage of a new law with more stringent provisions. It argued that the second oil crisis in 1979 undermined the objectives of the 1978 law and vitiated the forecasts upon which stabilization plans had been determined, thereby rendering industry efforts ineffective. Japan's Fair Trade Commission (JFTC) opposed the move arguing that the 1978 law had merely prolonged economic inefficiency and had not resulted in any improvement in designated industries' competitive position. Therefore, the JFTC argued strenuously against MITI's proposal for a new law stating that the formation of cartels, in particular, would impede economic efficiency. Other opponents argued that such moves would likely impede technological progress and result in price rigidity.

The resulting statute, which went into effect in 1983, gave some thing to both sides of this debate. MITI's powers were expanded to permit the Ministry to recommend sweeping changes in a given industry, including:

—the establishment of joint activities such as marketing, production and storage;
—methods to implement shifts in production among firms;
—investment in increased energy conservation and product quality; and
—development of new technology or products.

Although the scope of MITI powers under this new law are expansive, JFTC powers have likewise been increased by the statute. Under the 1978 statute, JFTC had initial power to approve MITI-recommended cartels. Once JFTC concurrence was obtained, the industry essentially had an exemption from Japan's anti-monopoly law for the duration of the cartel. Under the 1983 statute, however, JFTC not only grants initial approval for the formation of cartels or mergers, but also has the authority to review the operation of cartels once established. JFTC may recommend significant changes to cartels formed under MITI-approved structural reform plans if in the Commission's view these cartels have a negative effect on competition. In effect, the JFTC has been given increased power to act in a "check and balances" position with respect to MITI plans under the statute.

### B. RESTRUCTURING PLANS

Japan's policy objectives are put into play through the structural improvement plans required in the laws. A specific plan is drawn up by each industry. These plans contain: a target for structural improvement and a date by which it will be met, a description of the disposition of facilities, their productive capacity, and the method of disposition, for example, by scrapping or mothballing, restrictions on expanding or establishing new facilities, plans for joint business activities, investment required for modernization, development of new technologies and products, and raw materials and energy cost savings, and any other activities that will be taking place as a result of the plan, such as efforts to stabilize employment. The category of joint business activities was expanded in the 1983 law to include production, sales, purchasing, and transportation activities, as well as full mergers.

Industry restructuring plans are submitted to and approved by MITI's advisory body—the Industrial Structure Council (ISC). The Council has several sub-groupings with representatives on each from government, industry, labor, academia, and other interested groups, which deal with specific industry sectors.

The first restructuring plan under the new law was approved by the ISC's Chemical Industry Subcommittee in June 1983. Table 3 shows capacity reductions which are targeted to be completed before the law's June 1988 expiration date.

TABLE 3.—TARGETED CAPACITY REDUCTIONS FOR JAPAN'S CHEMICAL INDUSTRY

| Industry sector | Capacity to be cutback (thousand tons) | Curtailment rate (percent) | Target date |
|---|---|---|---|
| Ethylene | 2,300 | 36 | March 1985 |
| Low density polyethylene | 600 | 38 | March 1985 |
| High density polyethylene | 270 | 27 | March 1985 |
| Polyvinylchloride resin | 490 | 24 | March 1986 |
| Compound fertilizer | 810 | 14 | June 1987 |
| Fused phosphate | 240 | 32 | June 1987 |
| Phosphoric acid | 130 | 17 | June 1988 |
| Urea | 830 | 36 | June 1988 |
| Ammonia | 660 | 20 | June 1988 |

Source: Nihon Keizai Shimbum, June 7, 1983.

In addition to these targets for capacity reductions, joint production and sales efforts were outlined in each industry sector. For example, 17 companies in 4 groups will carry out joint sales activities for polyvinylchloride resin, with each of the four groups concentracting on different products.

In the ethylene industry, the effort is to move production into the most efficient facilities. A number of companies have curtailed or suspended activities in some of their plants and transferred operations to others.

### C. GOVERNMENT ASSISTANCE TO FIRMS

The government provides assistance to firms in three basic areas—funding, tax incentives, and research and development support. Companies in depressed industries are often heavily in debt and without sufficient collateral to make use of bank loans. The government therefore provides low-interest loans and relaxed requirements for loan guarantee programs so that companies have capital available for scrapping costs, investment in modernization, and employee-related costs, such as severance pay. The Japan Development Bank contributes 8 billion yen annually to the Designated Depressed Industries Credit Guarantee Fund which is used to guarantee private bank loans. In addition, in 1984, $43 million in short term loans and $425 million in loan guarantees, was to be provided for capacity reduction. While $43 million in low interest loans was to be provided to encourage the investments discussed below.[2]

Tax provisions for depressed industries have included extending carryover provisions for deducting plant and equipment scrapping costs. Further, the government has allowed lower tax liabilities for merger-related activities, and also special depreciation to encourage investments in cost-cutting measures, increasing value-added components, and consolidating business operations and divestiture out of uneconomic business areas.

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[2] Urata, Masutaro. New Approaches to Competition Policy. U.S.-Japan Relations: Toward A New Equilibrium, Annual Review, 1982-82, Harvard University, 1983. p. 161-163.

In the area of research and development, there have been a number of recommendations made to the government to establish and fund research groups to aid in the development of necessary new technologies.

### D. LABOR, ENERGY AND OTHER POLICIES

The government has enacted laws specifically to assist depressed regions, workers in depressed industries, and small- and medium-size firms. Some of these related programs are available to industries which have not been formally designated as structurally depressed. For example, in October 1982, the government ruled that the steel industry was eligible for assistance for retraining, relocating, and temporary layoffs, even though the industry had not received a depressed industry designation.

Private firms take primary responsibility for retraining and shifting their workers into other industrial activities when necessary, and firms in depressed industries have demonstrated that private industry has the initiative, ability, and flexibility to make necessary large-scale employment adjustments. Large firms, in particular, seem to be able to shift workers either into other activities within their companies or to help place them in other industries.

In some instances, workers in depressed industries have been successfully shifted to other divisions within the same firm; in other instances, they have been placed externally with unaffiliated firms. Japan's variable labor force, in which many workers are employed in small sub-contractor firms and women are expected to work for a temporary period of time and resign upon marriage, has made employment adjustment easier. Historically, growing industries have been able to absorb excess workers from depressed industries.

Energy policies have also figured large in the current situation of the declining industries. Lending by the Japan Development Bank for resources and energy has been steadily growing as a share of Bank activity and currently accounts for about 40 percent of total lending.[3] In addition, the government's 1984 budget for the introduction of energy saving facilities and the development of alternative energy sources is $19 million.[4]

Finally, the Japanese have also begun to look at foreign investment in declining industries as a possible solution to some problems. Foreign companies can offer technology, cheaper raw materials and needed capital. Acquisitions by foreign firms have taken place in the pharmaceutical and gas industries.

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[3] U.S. Library of Congress. Congressional Research Service. The Japan Development Bank Report Number 83-563 E, by Dick K. Nanto.

[4] Op. cit.

## VI. IMPLICATIONS FOR JAPAN'S TRADING PARTNERS

Although administrative guidance, tariffs, and quotas have all been used to some extent for industries in general, the Japanese government has tended to avoid the use of import protection for declining industries. Instead, the government provides financial and tax incentives to shift resources out of unprofitable, uncompetitive sectors.[5]

The United States has harshly criticized the trade impact of Japan's approach. It argues that allowing firms to stay in business by forming cartels restricts the flow of U.S. goods to levels below what they otherwise may have been if Japanese firms had been left to go bankrupt. Moreover, since Japan has tended not to use formal trade restrictive measures such as escape clause actions, the United States has been unable to seek compensation for possible losses as would be provided for under GATT (General Agreement on Tariffs and Trade) Article XIX. Finally, the United States has charged that Japan's Structurally Depressed Industries Law may be in violation of international agreements.

The U.S. position should be considered in light of the two basic international agreements which provide discipline for government actions relative to declining industries: GATT Article XIX, the safeguard or escape clause; and OECD's positive adjustment policy.

GATT Article XIX, contains a number of criteria for countries to follow in providing import relief to ease adjustment. For example, it states that measures should be temporary, should encourage industrial adjustment, and should be transparent. GATT Article XIX was drawn up for those industries experiencing downturns in business cycles and thus finding it difficult to compete with imports. The GATT article is based on the premise that some form of import protection (preferably a tariff) would be used. Finally, given that such border restrictions could cause injury to firms in the exporting nation, Article XIX provides that the exporting nation may seek compensation for this injury.

The OECD positive adjustment policy (PAP) outlines four major goals for declining industry policies of its member states. These are similar to GATT objectives. These goals are: first, that any measures will be temporary; second, that the measures taken encourage adjustment; third, that the policies and process involved be transparent; and fourth, that domestic and international competition be preserved.

When evaluated against these criteria, the record of Japan's declining industry policy is mixed. As noted above, many of the industries designated under the 1978 law are still designated under the 1983 statute. Moreover, given the nature of the problems facing these industries—excess capacity and a fundamental shift in comparative advantage—restoring such industries to competitiveness may, in fact, be an unachievable objective. The temptation for governments to protect such industries could likely become a political and social imperative. Although Japan's policies have not fared well to date with respect to their "temporary" nature, a key indicator of whether Japanese policies meet this first criteria will come in 1988 when the current law is scheduled to expire.

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[5] U.S. General Accounting Office. Industrial Policy: Japan's Flexible Approach. ID-82-32, June 23, 1982. Washington, 1982. p. 76-77.

Japan's depressed industries policies appear to meet the second criteria—that is, encouraging the shift of resources out of inefficient sectors by the elimination of excess capacity. The record of the 1978 law is well-documented in this area (see Table 2).

When judged against the third OECD criteria—transparency—the record of the declining industries statutes is not quite as clear. Transparency in this sense implies that the consequences of policies can be assessed by outsiders through public quantification of direct and indirect costs of government policies. Although the OECD recognizes that not all such costs are readily quantifiable, OECD's policy states that transparency can be productive by creating the necessary counter-balance to those simply seeking government assistance and prevents hasty, inconsistent decisions by policymakers relative to this support.

Because of the coordinative, consultative process involved in MITI's decisions regarding the formulation of structural reform plans, Japan will no doubt continue to be criticized by her major trading partners for a system which lacks transparency. The informality of this process will continue to be anathema to countries like the United States where more "formal", litigious-type meetings are the norm. The Japanese government will no doubt continue to argue that although these consultations are not open to the public, decisions made are reported publicly, and, furthermore, this informal consultation is simply the Japanese way of doing business. Whether increased participation by Japan's Fair Trade Commission in the process contributes to making it more transparent, remains to be seen.

The final major criteria against which Japan's policies should be measured, is that of preserving competition. In this instance, Japan's record is again ambiguous. Although JFTC participation in decision-making will most likely be focused on maintaining both domestic and international competition, there has not been sufficient time since passage of the 1983 statutes to evaluate the effect of government policies on competition.

Judging from the experience of the 1978 law—which was significantly different in terms of JFTC participation—it is again difficult to assess the effect of stabilization plans on competition. With the exception of the aluminum and petrochemical markets, where imports increased significantly, imports in the designated industries grew negligibly between 1978 and 1981. Although at face value these statistics may be incriminating, it is difficult to determine the extent to which a lack of import growth is attributable to economic factors (1978 was the peak year for manufactured imports of all kinds into Japan), the depressed industries statute, or to the general working of Japan's corporate groupings—the "keiretsu."

## VII. Concluding Observations

In this paper, no attempt has been made to determine whether or not the Japanese government's involvement in encouraging the movement of resources out of industries losing, or in danger of losing, competitiveness is an improvement over structural changes which would occur without such involvement.

When viewed against the U.S. and European experience, Japan's approach to depressed industries is very different. As a country dependent on exporting, Japan can not afford to maintain a large number of non-competitive industries. Its efforts are therefore focused on moving domestic resources out of those industries (except for agriculture) which can not compete. Its approach relies on cooperation and contractual-type arrangements in which all parties involved in granting and receiving assistance agree to make certain changes or take certain actions.

In the majority of European countries, governments protect declining industries from imports, usually through negotiated bilateral agreements and provide direct government assistance to allow firms in an industry to maintain current levels of operations and employment. The United States has tended to rely heavily on its import relief laws for the protection of declining industries from imports. There has been little attention to the development or monitoring of companies' adjustment efforts.

As the number of declining industries in the developed economies of Japan, Europe, and the United States grows, and competitive pressures in many of these industries from the newly industrializing countries increase, there are some indications that the approaches of these countries to declining industries are converging. As discussed above, Japan has taken an interest in the use of trade law to assist its industries. European assistance toward declining industries has begun to focus on moving resources out of non-competitive industries, and in the United States, greater attention is being paid to the activities of companies during the period in which they are granted import relief and the possibility of requiring some adjustment as a quid pro quo for import protection.

# STRUCTURALLY DEPRESSED AND DECLINING INDUSTRIES IN JAPAN: A CASE STUDY IN MINIMALLY INTRUSIVE INDUSTRIAL POLICY *

By Michael K. Young

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## I. INTRODUCTION

The remarkable post-War success of the Japanese economy has attracted the awed, but understandably wary gaze of the entire world. American pundits from business, labor and government study Japanese economic developments, past and present, with genuine interest, looking sometimes for ways to revive our occasionally flagging economy, other times for possible defensive strategies that might stem the tide of imports from Japan or at least minimize their disruptive effect.

One can question, however, whether these studies tell the whole story. In the first place, these studies sometimes coincide with a thinly disguised political agenda. Japan is an example of the efficacy of governmental intervention in the market place, argue some. Our only failure has been that we have not intervened properly. We should not decry government involvement and regulation; rather, from Japan we should learn how to structure that regula-

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tion and intervention effectively, efficiently and productively. Others counter that Japan is precisely the opposite, a case study in minimal government regulation and intrusion into the operation of a free market. Japan teaches us the importance of reducing governmental interference in private economic affairs, they contend.

Equally problematic has been the continual focus of most of these studies on growth industries. Japan has enjoyed such obvious success in automobiles, steel, and high-technology products that we are irresistibly drawn to some examination of these industries and the role of the government in their development. No doubt, moreover, careful comparisons of the role of the government in stimulating growth in similarly situated countries can be useful in determining the probable impact of various regulatory schemes. It is hazardous, however, to observe a single country and extrapolate from an isolated part of its experience broad generalizations about what governments should or should not do. That exercise becomes even more questionable when the experience of that country is taken largely out of its historical, geographical, sociological, and political context.

What, then, should one do to augment usefully the already considerable body of literature on Japanese economic development? One response is to study a far broader range of countries, particularly countries in circumstances similar to Japan, and explore the impact of various regulatory policies on the economic growth of selected industries. Another approach is to expand the examination of the Japanese experience to include governmental attempts to deal not with growing industries, but with what has become a major concern in the United States, declining industries.

Given the importance of this latter topic in and of itself, especially in the United States, and the manner in which such an examination will round out some of the literature that explores governmental approaches to growing industries in Japan, this paper will take this latter tack, exploring briefly one relatively recent attempt to deal with depressed and declining industries in Japan.

## II. Overview of Structurally Depressed Industries Laws

### A. HISTORICAL BACKGROUND

### *1. Industry-specific depression cartels*

Japan, like all major industrialized countries, is no stranger to change in the relative strength of the various industries that make up the industrial component of its economy. The current Japanese economic picture bears little resemblance to that of the 1950's, or even '60s and, it goes without saying, even less to that of the 1930's and '20s. Outsiders respectfully watch the often spectacular rise of certain industries. But for social and political reasons, often not unlike those with which we in the United States are intimately familiar, those inside Japan have historically devoted equal, if not greater, attention to declining industries. That concern, especially for industries that do not hold out much hope of real recovery, has often resulted in the passage of legislation that permits the companies in the industry to create cartels and engage in concerted activities for the "stabilization" of the industry, including activities relating to price, production and market allocation agreements. This form of special legislation, which permits what are euphemistically known as "depression cartels," covers a range of industries that engage in such diverse activities as fishing,[1] shipping,[2] coal mining, [3] and sugar production.[4]

### *2. Generic depression and recession cartels*

Japan has also responded generically to more broad-based economic dislocations that affect the overall state of the economy. For example, during the early 1950's, the economic disruption occasioned by the American disengagement from Korea caused a relatively serious recession in Japan. In the face of increasing bankruptcies and unemployment, the Government amended the Law Concerning the Maintenance of Fair Trade and the Prohibition of Private Monopolies,[5] commonly known as the Anti-monopoly Law, to permit depression cartels and related types of concerted activities, known collectively as "rationalization cartels," in any industry.[6] The former type of cartel, the depression cartel, permitted under article 23 of the Antimonopoly Law, allows producers, in the case of a severe industry-wide depression, to engage in collective activity aimed at restricting production, sales, facilities and prices.[7] Various consultations and approvals are required and, even then, only plans that protect various interests, such as those of the consumers, will be approved.[8] Article 24 of the Anti-monopoly Law permits the formation of the latter type of cartel, the recession cartel. Under this provision, producers can engage in concerted activity when necessary for the advancement of technology, improvement in the quality of goods, reduction in costs, increase in efficiency, or other undertakings necessary for the rationalization of the enterprises in the industry.[9] Again, the relevant authorities, including the Fair Trade Commission and the competent ministry, must determine that no undue injury to various interests, such as consumers and related entrepreneurs, will result from the activities. The most common cartel under this provision has involved concerted activity to standardize products. Cartels for the purpose of the division of markets also have been approved on occasion.

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[1] Article 10, Fishery Production Adjustment Association Law, Law No. 128 of 1961.

[2] See, e.g., Article 28, 30-2, Marine Transportation Law, Law No. 187 of 1949; Article 8, Coastal Shipping Association Law, Law No. 162 of 1957.

[3] Articles 62, 63 and 63.2, Law of Temporary Measures for Rationalization of the Coal Mining Industry, Law No. 156 of 1955.

[4] Article 13, Sugar Price Stabilization Law, Law No. 109 of 1965.

[5] Law No. 54 of 1947.

[6] Articles 23 and 24, The Law Concerning Maintenance of Fair Trade and the Prohibition of Private Monopolies (hereinafter, Anti-monopoly Law), added by Law No. 259 of 1953.

[7] The law outlines three pre-conditions for the creation of a cartel:

1. An extreme imbalance of the supply and demand for a particular commodity;
2. As a result of that imbalance, the price of the commodity is below the "average" cost of production and a large number of those producers who account for a large part of the total production of the commodity will be forced to quit the market; and
3. These problems cannot be solved merely by "rationalization" of the individual participants in the industry. (Article 23, Anti-monopoly Law.)

[8] Approval requires the various reviewing bodies to determine that the actions planned under the cartel do not exceed those necessary to solve the problem at hand; do not unduly injure the interests of consumers and related entrepreneurs; are not discriminatory; and do not unreasonably restrict participation in, or withdrawal from the concerted activities. (Article 23, Anti-monopoly Law.)

[9] Article 24, Anti-monopoly Law, added Law. No. 259 of 1953.

The number of cartels approved under both these sections, however, has been (and remains) relatively low.

### *3. Structurally depressed industry cartels*

The first oil crisis or, as the Japanese put it, oil shock, however, not only again reminded the Japanese, as if they needed any reminder, of the ultimate vulnerability of their economy, but, equally importantly, refocused attention on the underlying weaknesses of certain industries that were not necessarily doomed to decline, but were structurally unsound and unlikely to rebound unless drastic steps were taken. The concern culminated in 1978 in the passage of a special law designed to assist certain "structurally depressed" industries. The Law of Special Measures for the Stabilization of Specific Depressed Industries (Tokutei Fukyo Sangyo Antei Ringi Sochi Ho) [hereinafter, the Special Stabilization Law][10] was designed primarily to permit a reduction in excess capacity in particular industries and to assist these industries in becoming competitive once again by adjustments in their production process (and the raw materials that go into that process), diversification into more value-added products, development of new technology and streamlining of the distribution and marketing ends of the enterprises. This law, the details and effectiveness of which will be discussed below, was specifically designated a "temporary" measure and statutorily impelled the Diet to reexamine the matter at the end of five years.

At the end of this period, 1983, the Diet reexamined the situation and, concluding that a second oil shock and some deficiencies in the Law had prevented the specified industries from sufficiently improving their situations, re-passed the law in modified form.[11] The new Law, formally titled the Law of Special Measures for the Structural Improvement of Specific Industries (Tokutei Sangyo Kozo Kaizen Rinji Sochi Ho) [hereinafter, the Structural Improvements Law][12], permits specially designated industries to engage in a variety of concerted activities to reduce excess productive capacity and rationalize their marketing and distribution activities.[13]

## B. OUTLINE OF STRUCTURAL IMPROVEMENTS LAW

The Structural Improvements Law focuses upon those critical basic industries in the middle of the production cycle that were particularly hard hit by the dramatic increases in oil and raw material prices, on the one hand, and declining demand for their products, on the other. In particular, the Law designates seven broad categories of industries that are thought particularly likely candidates for special attention, including electric furnace steel production, aluminum smelting, chemical fibers, chemical fertilizers, ferroalloys, paper, and petrochemicals.[14] The Law also permits the designation, in certain circumstances, of other industries with a similarly bleak future.[15] Proponents of the Law argued that Japan, with its already almost total dependence on imported oil and raw materials, could not affort to let industries in the middle of the production cycle die. The decline of these industries would make Japan even more economically vulnerable and threaten the ability of those industries that operate at the next stage of the production cycle.

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[10] Law No. 44 of 1978.

[11] For a discussion of the origin of this Law and the relevant legislative history, see generally Ministry of International Trade and Industry, Sanko Ho no Kaisetsu (Explanation of the Structural Improvements Law) (1983); Negishi, Tokutei Sangyo Kozo Kaizen Rinji Sochi Ho no Seitei to Unyo (The Establishment and Operation of the Law of Special Measures for the Structural Imporvement of Specific Industries), 5 Keizai Ho Gakkai Nenpo 114 (1984).

[12] Law No. 53 of 1983.

[13] For detailed discussions of these Laws, their operations, the economic environment that lead to their enactment and their expected impact, see, e.g., Executive Bureau, Fair Trade Commission, Keizai no Henka to Dokusen Kinshi Seisaku (Economic Change and Antimonopoly Policy), in VIII Dokusen Kinshi Konwakai Shiryoshu 204 (1984); Hienuki, 'Fukyo Taisaku to Kyoso Seisaku' Showa 58 nen Shinpojium no Kiroku (Record of a 1983 Symposium 'Depression Counter-measures and Competition Policy), 5 Keizai Ho Gakkai Nenpo 93 (1984); Planning Subcommittee, Joint Committee of the Industrial Structure Advisory Committee, Waga Kuni/Sangyo ni Kakaru Gijutsu Kaihatsu no Genjo to Kadai (August 23, 1984).

Short-term measures, moreover, have been counterproductive, argued the proponents, because they had allowed marginal enterprises to survive, thus preventing modernization and rationalization. The statutorily designated industries were, baldly stated, facing long-term, structural depression. They had been severely affected by a combination of factors, including the cycle of inflation, rising raw material costs, decreasing demand, reduced capital investment and an increasing need for modernization. The Law, it was argued, would facilitate the reduction of excess capacity in industries without any prospect of recovering economic viability in their current state. It also would enhance the ability of these industries to become more competitive through adjustments in their production processes, adjustments that might include the introduction of new input materials, diversification, especially to more value-added products, increased research and development, and rationalization of output, product lines and distribution processes.

The Law is designed to encourage the designated industries to help themselves, without the aid of governmentally imposed import restrictions or tariffs. To take advantage of the Law, the industry first needs to be specially designated by the government. Governmental examination of the industry is initiated by a request of some substantial number of the participants[16] in a particular industry that is within the group of statutorily designated industries or that satisfies the criterion of the catch-all statutory designation.[17] Upon receipt of that request, the competent ministry had one year from the date of commencement of operation of the law to evaluate that industry, and, after seeking advice from the proper advisory councils, reach a conclusion regarding designation.[18] Twenty-one industries were designated from the seven broad categories of industries and the catch-all provision. These included industries that produce such diverse products as nylon filament, fused magnesium phosphate fertilizer, ferrosilicon, polyvinyl chloride and sugar.[19]

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[14] Article 2, Section 1, Structural Improvement Law.

[15] Article 2, Section 1, Para. 8, Structural Improvements Law.

[16] Upon an application from enterprises within the industry, the competent minister is required to determine that the applicants represent both a substantial number (daibubun) of the participants in the industry and that they are responsible for a substantial amount of the "enterprise activity" (jigyo katusdo) in the industry. Article 2, Section 3, Structural Improvements Law.

[17] Article 2, Section 2, Structural Improvements Law.

[18] Article 2, Section 3, Structural Improvements Law.

Upon designation of the industry and consultation with the appropriate advisory bodies, the competent ministry is required to formulate a Basic Structural Adjustment Plan. That plan serves as a guideline for the structural readjustment to be undertaken by the industry. The plan is to contain recommendations regarding the appropriate amount of capacity reduction, suitable limitations on new capital investment, target dates for completing the readjustments, and guidelines for various other measures that might be appropriate for the rationalization of the industry. These latter measures could include specific plans for coordinated and concerted activity in the industry's production, distribution, purchasing and transportation cycles.[20]

With respect to the reduction of excess capacity, the readjustment plans are to place primary emphasis on the independent effort of each individual firm in the industry.[21] Recognizing this will not always result in adequate reduction, however, the Law permits the minister to develop a plan that instructs the participants to engage in concerted action.[22] The minister must obtain the approval of the Fair Trade Commission before he can give such instructions.[23] Joint activities for capacity reduction that have received the approval of the FTC, however, are exempted from application of the Anti-monopoly Law.[24] At least five industries are currently under instructions to carry out such reductions jointly, including the producers of ethylene, polyolefin, polyvinyl chloride, compound fertilizer and paper. Through both individual and concerted activities MITI expects an approximately 30 percent overall reduction in the capacity of the designated industries.[25]

The plans also may contain guidelines for the creation of certain joint business operations, including, for example, joint purchasing, production, distribution, transportation and storage.[26] These arrangements enjoy no exemption from application of the Anti-monopoly laws however. Rather, such plans are to be submitted to the Fair Trade Commission for an evaluation of their propriety in light of the strictures of the Anti-monopoly Law. So far, the ministries have suggested (and the FTC has reviewed) at least fifteen plans for these types of business tie-ups.[27] Presumably these tie-up arrangements, once they have passed FTC muster, do not violate the Anti-monopoly laws.

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[19] The actual industries designated include: *electric furnace steel production; aluminum smelting; nylon filament; polyacrylonitrile staples; polyester filament; polyester staple; viscose rayon staple; ammonium; urea; wet process phosphoric acid production;* fused magnesium phosphate fertilizer; compound fertilizer; *ferrosilicon;* liner and corrugating medium; paper (excluding newsprint and traditional Japanese paper—washi) ethylene; polyolefin; polyvinyl chloride; ethylene oxide; unplaticized polyvinyl chloride pipes; and sugar refining. See Policy Bureau, Ministry of International Trade and Industry, Sanko Ho no Kaisetsu (Explanation of the Structural Improvements Law) 78-79 (1983). Underlined industries also were covered by the previous law, the Special Stabilization Law.

[20] Article 3, Sections 1 and 2, Structural Improvements Law.

[21] Article 4, Structural Improvements Law.

[22] Article 5, Structural Improvements Law.

[23] Article 12, Structural Improvements Law.

[24] Article 11, Structural Improvements Law.

[25] Japan, Ministry of International Trade and Industry. Adjustment of the Basic Material Industries and the Temporary Measures Law for the Structural Adjustment of Specific Industries (1984).

[26] Article 3, Section 1, Para. 4, Structural Improvements Law.

[27] The industries include polyolefin, wet process phosphoric acid production, compound fertilizer, ethylene, polyvinyl chloride, ethylene oxide and paper. See MITI, Enforcement of the Temporary Measures Law for the Structural Adjustment of Specific Industries 1 (1984).

In formulating the readjustment plans, attention also must be given to two additional matters. First, each enterprise must enter discussions with its labor unions or, in the absence of a union, labor representatives regarding the probable impact of any readjustment plan on the employment prospects of the company's personnel. The plan must then be structured to protect against the loss of jobs and to promote employment stability.[28] The Law impose a similar obligation on the government, both national and local, in addition to a duty to develop retraining and employee assistance programs.[29] This obligation, initially articulated in a law, since expired, entitled the Law of Special Measures Regarding Terminated Employees of Specially Designated Recession Industries, is now part of the obligation imposed by the Structural Improvements Law on the public and private parties that develop the readjustment plans.[30] The second matter that must receive attention, if not in a readjustment plan, then in subsequent or simultaneous government action, is the effect of a plan on small- and medium-sized enterprises. If a plan affects these enterprises, a constituency long favored in Japan,[31] the government must take steps to reduce the plan's impact and stabilize those industries.[32]

The Law offers limited financial assistance to the concerned companies. Under the Law, the government is authorized to create a trust fund that can be used to guaranty any loans that might be necessary to achieve the hoped for reductions in capacity, modifications of product lines, rationalizations of production and distribution processes, or achievement of other goals outlined in the readjustment plan.[33]

## III. Actual Operation and Effectiveness of Special Stabilization Law and Structural Improvements Law

### A. DEBATE ABOUT "IMPROVEMENTS" UNDER READJUSTMENT PLANS

### *1. Same degree of capacity reduction and rationalization even in absence of law: The critics*

Despite the notice both the Special Stabilization Law and the Structural Improvements Law have received in Japan and even abroad, the Laws are not without their critics. Since the Structural

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[28] Article 10, Section 1, Structural Improvements Law.

[29] Article 10, Sections 2 and 3, Structural Improvements Law.

[30] Another special law, the Special Measures Law Regarding Terminated Employees in Specially Designated Recession Areas, which also expired on June 30, 1983, established a clear obligation on the part of the government to develop readjustment plans that dealt with the potentially disproportionate impact that readjustment might have on a particular region. This obligation finds less clear articulation in the Structural Improvements Law. Nevertheless, this Law requires the government to consult with the governor of a prefecture when the burden of readjustment is likely to fall particularly heavily on his constituents or the local economy. Article 56, Structural Improvements Law.

[31] See, e.g., Basic Law of Small and Medium Sized Enterprises, Law No. 154 of 1953; Law Concerning the Organization of Small and Medium Sized Enterprises Associations, Law No. 185 of 1957; Small and Medium Sized Enterprises Cooperative Association Law, Law No. 181 of 1949; Small and Medium Sized Enterprises Trust Insurance Law, Law No. 264 of 1950; Small and Medium Sized Enterprises Promotion of Modernization Law, Law No. 64 of 1962, to name just a very few of the special measures assisting small and medium sized enterprises.

[32] Article 10, Section 4, Structural Improvements Law.

[33] See Articles 13-50, Structural Improvements Law.

Improvements Law only came into effect recently, most of the discussion of relative success has naturally revolved around its predecessor, the Special Stabilization Law. Critics of that Law acknowledge that much excess capacity was eliminated between 1977 and 1981 and that with only a few exceptions most of the industries covered under the Law enjoyed some improvement in their performance. Thus, they concede, many of these industries came close to achieving the goals established by their various readjustment plans. They argue, however, that the concerned companies would have achieved the same degree of capacity reduction and rationalization even without a formal regulatory scheme. They first point out that less than one-quarter of the 100 billion yen authorized under the Law for guarantying loans was ever actually used.[34] They also claim that little relationship exists between use of the loan guaranty funds and achievement of the goals outlined in the readjustment plans. In many industries, such, as aluminum smelting, ferrosilicon, and electric furnace steel production, the guaranties were never used. Use of the funds was rare even in industries that engaged in concerted action and, in industries that did not engage in joint action, only the shipping industry availed itself of the guaranties.[35]

Critics also question the usefulness of joint or concerted action under the Law. They point out that the difference in rate of achievement of excess capacity reduction targets between the eight industries that engaged in joint action and the six that did not is negligible.[36]

Even more telling, they argue, is that the capacity reduction that actually occurred on an industry by industry basis ultimately bore little resemblance to the carefully developed readjustment plans. As an example they point to the synthetic fiber industries, including nylon filament, polyester filament and viscose rayon staple. Well before their designation under the Special Stabilization Law these industries had come under fire in various business circles for surplus productive capacity, estimated by some to be as high as 20 percent. Upon designation under the Law, the participant businesses in the industries did create small planning committees to formulate reduction plans, and, despite the divergent interests of many of these enterprises, the continuing deterioration of the industries' profits and competitive position finally encouraged even the most recalcitrant to cooperate and capacity reduction plans were formulated. The plans established industry wide goals for overall capacity reduction and then called for each enterprise to reduce capacity proportionate to that enterprise's share of total industry capacity.

By all appearances, however, actual equipment disposal proceeded far differently from the guidelines established in the plan. Each enterprise moved largely on its own and was influenced far more by market conditions and its own circumstances (or at least its own evaluation of those circumstances) than by any jointly established goals or guidelines.[37] Other industries largely ignored their joint capacity reduction plans when technological breakthroughs permitted them to regain some of their prior competitive stature. Again, argue the critics, the Law accomplished little.

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[34] Horiuchi, Kigyo Jishuteki ni Gorika (Enterprises Independently Rationalized), Nihon Keizai Shimbun, June 7, 1984. Horiuchi notes that only 23.2 billion yen worth of loan guarantees were ever used under the Special Measures Law.

[35] Horiuchi, supra n. 34.

[36] Horiuchi, supra n. 34.

### 2. *Careful tailoring of relief to circumstances of each industry: The proponents*

Obviously, the Law has not been without its defenders, however. They do not dispute that only minimal use has been made of the loan guaranty fund. Nor do they disagree with the contention that most of the capacity reduction has occurred (and very well might have occurred in any event) without application of the Law. They argue, however, that was the precise design of the Law. Instead of establishing large subsidies or import restrictions, or even nationalizing industries, all of which work to the long run disadvantage of a country's overall economic development, the Law was designed only to facilitate and speed the accomplishment of what market forces would ultimately require the enterprises to do in any event and to minimize the dislocations that those market forces would occasion.[38]

Proponents of the Law also point out that the assistance provided each industry varied with the particular circumstances and needs of those industries. Certain industries are experiencing what is almost certainly an irreversible decline. In the case of aluminum refining and ferrosilicon production, for example, imports already exceed domestic production. Little concerted action is necessary to encourage capacity reduction. Orderly exits from these markets and shifts of these resources to more promising markets, however, can be achieved by giving financial assistance when, and to the extent that capacity is reduced.[39]

Other industries, such as the paper pulp industry, are threatened by imports and moderately declining demand. Nevertheless, the national and international markets are still relatively strong and, while the industry must reduce capacity somewhat, it can go a long way to retaining (or regaining) its competitive posture by internal rationalization. In these industries, concerted action to reduce excess capacity can be (and has been) effective. This reduction in capacity, along with the introduction of new technology and modernization and rationalization of plants and production processes, all accomplished with the help of the Law, can significantly strengthen the competitive position of the industry as a whole. Finally, some industries, such as the synthetic fiber industry, have been forced to reduce excess capacity (and have been assisted in this process by the Special Stabilization Law). In industries of this last type, the goal of the Law is to help the industry avoid investment patterns that will result in significant excess capacity in the future.

The needs of each industry vary, argue the proponents, and thus the type and extent of governmental intervention and assistance likewise vary. Each industry develops a plan that facilitates structural improvement within that industry, a plan that is uniquely tailored to the particulars of that industry. Naturally the degree to which the industry will take advantage of governmental assistance will depend on those particular circumstances and the specifics of the plan that the industry itself advances. Minimal use of the loan guaranty program does not suggest that program was ineffective. Rather, this type of assistance was useful only to a relatively small number of industries or only in small amounts. A better measure of the effectiveness of the Law was the extent to which the industries achieved the goals outlined in the various readjustment plans. The overall capacity reduction goal for the fourteen industries designated under the Special Stabilization Law was 23 percent. The average, overall achievement rate was a startling 95 percent.

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[37] Horiuchi, supra n. 24.

[38] For one of the stronger defenses of the Special Stabilization Law, see Fujishima, Nihonteki Sangyo Choseisaku wa Yuko (Japanese style Industrial Adjustment is Effective), Nihon Keizai Shimbun, July 14, 1984.

[39] Fujishima, supra n. 38.

After reviewing these various arguments, it is clear that much further study is necessary before we can assert with any certainty that the Law was a success or failure The data is still too sketchy and the results too uncertain to permit any final evaluations. Nevertheless, even at this stage certain aspects of these Laws are particularly interesting for what they suggest about the role of the Japanese government in economic affairs, the role of legal structures and institutions in promoting economic development and curbing economic decline, and the relationship between laws that might be characterized as part of Japan's "industrial policy," even in the narrow sense of that word, and other legal, political and social institutional arrangements. Let us examine each of these issues in turn.

## B. ROLE OF GOVERNMENT IN DEVELOPMENT OF INDUSTRIAL POLICY

### 1. *Pattern of governmentally encouraged and structured private ordering schemes*

#### a. *Governmentally structured and compelled negotiations to determine content of regulations*

One of the more striking features of both the Special Stabilization Law and the Structural Improvements Law is the degree to which virtually all the programs under these Laws are initiated, designed and even executed and enforced by the regulated parties themselves. The government is important in this process, but it does not serve to create overall regulatory schemes without significant, indeed, generally dispositive, input from the regulated parties. Rather than dictating solutions, the government creates a structure in which the parties are encouraged (or even occasionally compelled) to bargain out the details of a regulatory scheme, which the government approves and then turns around and again commits back to the parties for enforcement. Let us examine the process as it has developed in the design and operation of these two laws.

The self-regulatory aspect of the Laws' design is seen at the very earliest stages of their operation. The requirement that a substantial majority of the participants in an industry join the petition for designation as an industry entitled to special treatment under the Laws, for example, confirms in two important ways the pivotal role of the regulated parties themselves in designing their own regulatory regime. First, it leaves no doubt that the government wants the industry itself to make the initial judgment whether relief or assistance is warranted. The petition process does not merely initiate a governmental inquiry. Rather, the very act of petitioning occurs only after the first level inquiry is completed, an inquiry conducted by the industry participants themselves. Or, put another way, submission of the petition indicates that at least a substantial majority of the industry believes their situation warrants the special assistance available under the Law. The government may then examine the situation further, but, if this were to be a full scale, totally independent, ab initio evaluation, little need would exist for a petition from the entire industry. The requirement of a substantial majority, while subject to alternate interpretations,[40] certainly suggests that the government is looking to the industry itself for guidance in this matter. Second, the requirement that the regulatory regime be largely party initiated suggests the government may have some doubts about its willingness (or perhaps even ability) subsequently to enforce the regulations with strong, authoritative measures. Thus, the requirement that a substantial majority of the participants in an industry initiate the process for designation is a signal that the government is, to some large degree, taking the industry lead, not generating a comprehensive regulatory scheme entirely on its own.

After the government designates a specific industry, then it turns around and again commits to the industry participants the task of developing a concrete readjustment plan. This too suggests the limited role the government plays in the development of the details of regulation. The plan specifies dates and amounts for disposal of excess equipment, and indicates whether joint action is necessary for its accomplishment. It also outlines other measures, such as possible technology improvements in the production process, the use of new or different raw materials, improvements in plant and production facilities, and new distribution strategies. The plan may also outline certain business tie-ups for material acquisition, production or distribution.

While the government generally reviews these plans, suggesting changes as necessary, discussions with government officials and comparisons of plans submitted with those actually approved reveal that most government suggestions are, at most, relatively minor. Indeed, it is not to much to say that the only points on which the government seriously reviews the plans are their potential anti-trust ramifications. Both the competent ministry and the

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[40] Of course, one might argue that the substantial majority requirement is necessary merely to conserve government resources. Unless a relatively large number of the participants feel exceptional action is necessary, there is little likelihood the government would subsequently encourage concerted readjustment activities. If that were the only concern, however, a lower threshold requirement might be not only possible, but desirable, because the industry that might be most in need of help very well might have certain actors that have much to gain from a non-interventionist stance on the part of the government and these actors may well be in a position to prevent any petition for help from securing a substantial majority. Interviews with relevant ministry officials (conducted during the summer of 1984 by the author) also cast doubt on this argument. Ministry officials made it clear that in most cases the subsequent governmental investigation was, at best, cursory and generally involved only an examination of facts and figures provided by the relevant industry associations, the associations through which the petitions were advanced in the first place.

FTC examine the need for an exemption from anti-trust liability for joint action to reduce capacity and whether the proposed business tie-up potentially violates the Anti-monopoly Law. Other than that, however, government review of the plans is cursory at best. Even the determination whether loan guarantees are necessary is left largely to the industry participants. This again demonstrates the extent to which the government commits the basic design and development of the regulatory scheme to the regulated parties themselves.

The role of the government in the creation of this regulatory regime is not that of a dictator or heavy-handed, authoritative designer of regulations. This is not to say, of course, the government has no interest in how these matters are resolved. Nor does it suggest the government represents no constituency or any particular interest or interest groups. Indeed, the government may well take some part in the bargaining and even try to shape the outcome of the negotiations. It also may represent certain positions with vigor. In this context, however, the government acts, if it acts at all, as another of the bargaining parties and not as a governmental agency with final determinative power. It does not dictate its preferences, but rather merely places those preferences on the bargaining table along with the preferences of all the other parties. The readjustment plans finally offered to the government have responded to those preferences to varying degrees, but rarely has any plan reflected totally the government's view of what "should" be done. Rather, at the negotiating stage, the government is merely another one of the "parties," the views of which are entitled to some, but not dispositive, consideration. The important point to remember in all this is that the government encourages some resolution, but does not itself dictate the content of that resolution or otherwise throw its weight heavily behind one or another of the contending positions.

The government encourages this serious, good faith bargaining and negotiation in a variety of ways. It offers, for example, governmental assistance in the event agreement is reached. It also may threaten to intervene in some form even if the parties do not reach agreement or, alternatively, to enforce a certain readjustment plan even in the absence of unanimity on the part of the participants if it is clear that some of the parties were negotiating unreasonably or in bad faith. Finally, the government can simply threaten to take no action if the parties fail to reach accord. The distress in which the various companies find themselves, and the threat that this distress will go unrelieved, are often incentive enough to put aside petty (and, occasionally, even major) differences and reach some consensual solution. The government generally uses these powers, however, to encourage serious bargaining, not to compel any particular "governmentally favored" solution to the particular problem at hand.

### *b. Motivations for creation of governmentally encouraged and structured private ordering schemes*

#### *i. Individualization of regulatory schemes*

Official or semi-official encouragement of private participation in what some might consider fundamental governmental responsibilities is often seen in Japan[41] and may stem from two related motivation well springs. First, it may reflect a sense on the part of the government that privately created regulatory solutions are more likely to accomplish efficiently and effectively the overriding governmental objectives. Privatizing certain governmental determinations may significantly enhance the possibility of creating and executing individualized solutions that respond both to the variable circumstances in which the problems arise and the competing societal and personal concerns necessarily inherent in both the problems and any proposed solutions. Indeed, the government may be skeptical of its own ability to identify and evaluate the competing interests that must inform governmental determinations. Rather than attempting to determine exactly what is in the best interest of the Japanese economy as a whole or of any individual enterprise, government officials leave those determinations to those who arguably know these matters best, the parties themselves.

The precise regulatory burden or benefit depends largely on the negotiations between the various participants in the industry. Of course, as mentioned above, the government may itself represent in the negotiations certain interests that are otherwise likely to be underrepresented. But the government only urges the case of those unrepresented interests, it does not dictate a solution based solely on those, or any other concerns. Rather, the solution is jointly developed only after intensive negotiations and discussions among those most intimately knowledgeable about the problem. This permits a solution uniquely sensitive to the myriad circumstances and concerns confronting each of those affected by the subsequent regulatory regime.

#### *ii. Responsive to, and reflective of basic market forces*

This inclination to create regulation not by government fiat, but rather through governmentally structured bargaining, may also result from some sense that if the parties are left to work out their own problems, the basic forces of the marketplace, while undoubtedly subject to some distortion, nevertheless will continue to operate to some significant degree. As the parties bargain and negotiate they will, at least to some extent, operate from the same positions of weakness and strength the market imposes upon them in the first place. This reflection of the marketplace forces will be mirrored, albeit imperfectly, in the plan the industry ultimately advances. This is not complete adherence to the market as the final arbiter of success or failure, but, for various political reasons, by the time these issues reach this stage, the government already has determined it cannot simply stand back and let those forces operate in an untrammelled way. That some form of intervention is necessary has already been decided. What we might be seeing here is simply a type of intervention that is, on the one hand, adequately responsive to the political pressures that created the need for intervention in the first place, while, on the other, more likely to reflect the probable impact of market forces (or at least not run totally counter to these economic forces) than most other forms of governmental support for failing or depressed industries.

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[41] See, for example, Young, Michael K. Judicial Review of Administrative Guidance: Governmentally Encouraged Consensual Dispute Resolution in Japan. Columbia Law Review, v. 84, 1984. p. 923.

### 2. *Private enforcement of regulatory scheme*

A second dimension of the basic approach to regulation revealed by government action under these Laws is the extent to which the government encourages not only essentially private determinations of the contents of government regulatory schemes, but also commits to the parties themselves the task of executing those schemes. Cartels, business tie-ups, loan guaranties, and modernization and rationalization activities under the Laws are all virtually self-regulating and self-policing once the government approves the readjustment plan.

#### a. *Ineffective and inefficient public enforcement mechanisms*

The police powers vested in the government by these Laws are not terribly strong and that, no doubt, explains in part this vestiture of responsibility in the parties themselves. This is not a totally satisfactory justification, however, because, after all, the Laws do grant the government some enforcement powers. Even more to the point, the government agencies themselves drafted these Laws and, presumably, chose not to claim more authority. The ability of the Japanese government, moreover, to enforce its wishes by employing various related or collateral powers is well known.[42]

#### b. *Ease, certainty, effectiveness and efficiency of enforcement*

In all likelihood, ease and efficiency of enforcement are among the primary reasons the government seems to prefer self-determined and self-executing regulatory regimes. When the parties participate extensively in the design and execution of regulation, they can minimize the dislocations of particular regulatory burdens. They also can increase efficiency in accomplishing regulatory goals and introduce flexibility into the enforcement process, thereby minimizing the degree to which regulations impose unnecessary, unfair or disproportionate burdens and, equally importantly, compliance costs. The parties may, on occasion, design regulatory regimes that are not only less burdensome, but perhaps even beneficial. In these circumstances, compliance is obviously appreciably more likely. At a minimum, non-compliance may result in the parties having less input into the formation of the regulations next time around.

Judicial challenges to these regulatory schemes or attempts to introduce more procedural regularity into the formation of these regulations are even more unlikely because the informal and unlegalized nature of the regulatory relationship generally works to the parties advantage. Even if a party were to prevail in a particular case, consistent recourse to adjudication or attempts to secure more formal legislatively mandated procedural regularity might rigidify the regulatory relationship in ways that would work to the long-run disadvantage of the regulated parties.

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[42] See Young, supra n. 41, at 938, 948-53.

### C. ROLE OF LEGAL REGIME IN DEVELOPMENT OF INDUSTRIAL POLICY

The manner in which the Laws under discussion in this article are structured also highlights two critical points that must be kept in mind when considering any so-called Japanese approach to the development of an "industrial policy." First, laws and regulations cannot be taken out of context. They often interrelate with other institutional, political and social constraints in very particular ways and can be evaluated only against the backdrop of those constraints. Second, even laws that intervene in the market may be designed and executed to facilitate operation of that market, rather than impede or distort its normal operation. Let us examine both these points now.

#### *1. Business tie-ups and constraints on mergers and acquisitions*

A distinctive feature of these Laws is their encouragement of so-called business tie-ups. These joint business activities may take a variety of forms, including the establishment of companies for joint purchasing, selling or producing, or joint research and development projects. The polyolefin resin industry is a good example of this type of activity. Under the Structural Improvements Law this indutry established four joint selling companies to sell the products of the seventeen different producers. This joint activity permits the companies to unify, rationalize and standardize their several hundred grades and types of products. It also permits increased interchange of these products and simplification of what most industry observers have characterized as an absolutely chaotic transportation system and dealer network. The savings from this rationalization should be considerable, significantly improving the competitive position of this industry. All told, the government has reviewed and approved fifteen plans for business tie-ups under the Structural Improvements Law, from industries that produce products such as ethylene, polyvinyl chloride, paper, ethylene oxide, compound fertilizer and phosphoric acid by wet process.

Perhaps the most interesting aspect of these business tie-ups is the way in which they relate to other parts of the Japanese business and legal environment. This is seen most clearly in the manner in which business tie-ups resemble the streamlining of business operations that normally occurs in the United States through mergers and acquisitions. The business activities of the 4 selling companies in the polyolefin resin industry, for example, bear strong resemblance to the activities that might be undertaken if there were only 4 participants in that industry, that is, if the 17 producers had, through the process of mergers and acquisitions, become 4 relatively large companies. They coordinate production, standardize products within their particular grouping, rationalize and coordinate distribution networks and marketing practices and strategies. Some have even taken steps to facilitate joint raw materials purchases, integrate production functions and develop and introduce new technology. In other words, each of the four selling companies acts as though it were one large company that had acquired, through mergers or acquisitions, a number of smaller companies.

One might reasonably inquire, of course, why one would create a law that permits these back-handed mergers. Why not merely allow the normal process of mergers and acquisitions to determine the most competitive overall business structure. One might argue, for example, that a law that permits companies to band together to conduct what are normally discrete business functions would only introduce inefficiencies and increase the possibility that these entities would engage in anti-competitive, collusive behavior. Rather, if the businesses are inefficiently small, the market should winnow them out, leaving only those that are large enough to take advantage of efficiencies of scale.

While such arguments have force, their strength is tempered in Japan by the problems at least some of these companies confront when trying to rationalize their operations by themselves. Mergers and acquisitions, one way in which the market operates to rationalize and streamline business operations,[43] are, by most accounts, more difficult to accomplish in Japan than, for example, in the United States.[44] Disagreement, of course, still exists over the extent to which mergers and acquisition can (or do) introduce real efficiency in the marketplace, with many questioning whether most or even much of merger and acquisition activity in the United States is efficiency seeking behavior.[45] Nevertheless, most commentators concede that at least some businesses become more efficient competitors through the processes of mergers and acquisitions, and these businesses often respond to market forces by engaging in efficiency enhancing mergers or acquisitions. The relative inability of Japanese corporations to engage in this type of behavior has, according to some, introduced inefficiencies into the Japanese economy or, at least, reduced the ability of some corporations to eliminate inefficient structures and practices.

The Structural Improvements Law, with its explicit encouragement of certain forms of joint business activities, especially in the purchasing, production, and distribution phases of a business, might be viewed as an attempt to offset or compensate for the disadvantages these companies face by virtue of their inability to merge, acquire or be acquired. In other words, the Law might be viewed not as a regulatory regime that introduces inefficiencies into the market, but rather as an attempt to counteract inefficiencies (or barriers to efficiency) that already exist. The Law is not itself a barrier to efficiency when set against the backdrop of the relative inability of Japanese companies to become maximally effective and efficient competitors. Rather, the law is an attempt to offset the barriers to efficiency created by that inability of Japanese companies to streamline themselves.

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[43] See, e.g., Dewey, Donald. Mergers and Cartels: Some Reservations About Policy. American Economic Review, v. 51, 1961. p. 255. Manne, Henry G. Mergers and the Market for Corporate Control. Journal of Political Economy, v. 73, April 1965. p. 110.

[44] See, e.g., Abegglen, Can Japanese Companies Be Acquired, 17 Mergers and Acquisition 16 (1983); Ito and Shoda, Kaisha no Gappei nado no Shinsa ni Kansuru Jimu Shori Kijun wo Megutte, 726 Jurisuto 13 (1980); Nishimura, Acquisitions in Japan, in I. Shapiro, ed., Legal Aspects of Doing Business With Japan 93 (1981); Nishimura, Mergers and Acquisitions in Japan: Rules of the Unplayed Game, 17 Mergers and Acquisitions 20 (1983); Sekine, Kaisha no Gappei Nado ni Kansuru Jimu Shori Kijun ni tsuite, 726 Jurisuto 36 (1980); Tatsuta, Restrictions on Foreign Investment: Developments in Japanese Law, 3 J. Comp. Corporate L. and Sec. Reg. 159, 161-63 (1981).

[45] See e.g., Scherer, No Boon in the Merger Boon, Bus. and Soc. Rev., Winter 1979-80, p. 17.

This understanding of the Law has important implications for what we might learn from it (and, more generally, from the Japanese regulatory approach) about the creation of an effective industrial policy. It is too early in the operation of the Structural Improvement Law to evaluate the effectiveness of this scheme and, indeed, even the extent to which the Law will, in fact, operate in the manner described in the preceeding paragraphs.

Even at this point, however, one is entitled to sound cautionary notes against casually adopting or applauding Japan's efforts. Even if the Law is highly effective, it may, on this score at least, give only limited guidance to the United States. If the Law's encouragement of business tie-ups is designed (and used) largely to offset or counteract certain barriers that prevent Japanese companies from independently streamlining and rationalizing their operations, then a law that facilitated such tie-up would have only limited usefulness in an economy where such barriers do not exist.

Speaking more generally, a study of this law suggests the impotance of understanding the interaction between the legal regulatory regime the law creates and the economic, political, cultural, social and legal environment in which that law is applied. The lessons learned from Japan are at best analogical in both theory and application.

### 2. *Maintaining and strengthening domestic competition*

A second interesting and feature of the Structural Improvements Law is the manner in which it is structured to maintain and strengthen domestic competition even as it permits certain types of joint business activities. Turning again to the polyolefin resin industry, the law permits the 17 producers to form 4 joint selling companies. That allows the industry to engage in some standardization of products and other rationalizing activities, while at the same time insures that the industry will remain amply competitive. Within each selling company, the various producers might not compete against each other, but each selling company and its related producers will continue to compete against the other selling companies and their related producers. Rationalization is encouraged, but, presumably, not at the price of competition. This is another example of how the government attempts to assist troubled industries, but not by thwarting all the basic market forces that normally shape and mold an economy.

An even more striking example can be found in an industry that must remain unnamed for the moment because its business tie-up plan has not yet received final government approval. Participants in this industry agreed upon a plan to create 5 companies that would coordinate production and distribution of the 22 producers in the industry.[46] The competent ministry approved the plan, but the

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[46] Interviews conducted by author summer of 1984 with officials from Japan's Ministry of International Trade and Industry and Fair Trade Commission.

FTC balked. It conceded that five selling companies was an adequately competitive number of business entities, but thought the market share of one of the five selling companies would be too high in one particular area of Japan. The FTC thus asked the industry to devise a plan that would more evenly distribute market share across the various relevant regional markets. Apparently the industry is still at work at the task.

Of course, the interesting point in all this is the care with which the FTC examined the competitive impact of this new production and distribution scheme. The FTC first reviewed the number of selling companies to make sure that it was sufficient to insure vigorous internal competition and then examined each regional market to make sure that the make-up of each of the selling companies did not create unnatural market distortions or give one company a particular competitive edge. The care and attention to the structure and composition of these selling companies suggests the importance the government places on the marketplace as a final arbiter of the basic structure of the Japanese economy and its participants. This is not to say, of course, that things operate exactly as they would in the absence of government intervention, or that the market is allowed to operate in a completely unregulated way. It does suggest, however, that the government is extremely sensitive to basic economic forces and uses those forces, rather than attempting to run counter to them, in structuring its regulatory schemes.

## IV. CONCLUSION

While at this stage any conclusions about these Laws and their operation must be advanced with hesitancy, one is left with certain impressions. First, the Japanese government does not appear to operate in an extremely heavy-handed, authoritative way when dealing with these structurally depressed industries. Indeed, it does not seem inaccurate to assert that the government generally only "facilitates" the efforts of the industry to restructure itself and regain lost competitive ground.

In a related vein, these Laws suggest a fundamental commitment to the operation of basic market forces. Readjustment plans and all joint activities are screened carefully for possible anti-competitive effects. Equally importantly, the negotiated restructuring and joint activities may well be attempts not to counter basic market forces, but rather to offset certain barriers that themselves diminish the extent to which those market forces can operate. These readjustment plans also seem designed in important ways to minimize the dislocations that are occasioned by the operation of the market, not to thwart the operation of those basic economic forces.

Finally, this dual emphasis on both party participation in the creation of regulatory schemes and regulatory structures that maintain and encourage internal competition may also explain in part the sense one has that while Japanese companies cooperate at a number of levels, they are nevertheless intensely competitive with each other. Indeed, it is almost puzzling how Japanese companies continually discuss (and even agree to cooperate on) a variety of matters and yet remain at heart vigorous competitors. This regulatory practice, whereby the government orchestrates limited discussion and mutual cooperation, while at the same time diligently working to insure that internal competition is maintained and even enhanced, may shed some light on how this apparantly inconsistent or contradictory behavior on the part of the companies has developed.

Of course, even if further research verifies all these observations, we still can learn much from Japan about productive approaches for dealing with declining and dislocated industries. It is clear, however, that we must apply these lessons with considerable caution and care.

# JAPANESE DEFENSE POLICY: ISSUES FOR THE UNITED STATES

By Larry A. Niksch

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## I. INTRODUCTION

Japanese defense policy and defense issues in Japan-U.S. relations can be viewed in several ways. The U.S. Government often addresses them in the context of an American desire to see Japan play a stronger military role in the defense of the Northwest Pacific against growing Soviet forces in that region. U.S. officials say this is needed particularly in light of the increased burdens imposed on American forces in the Pacific by the Soviet buildup and new U.S. commitments in the Indian Ocean-Persian Gulf region.

Other U.S. views focus on the bilateral Japan-U.S. relationship and the emergence of Japan as an economic superpower. These perceptions often relate to financial burdens and concepts of fairness. They give particular scrutiny to the percentage of its gross national product that Japan spends on defense compared to the United States and its other allies, and how much money Japan spends to support American troops and bases in Japan. Most recently, the degree of U.S. access to Japanese defense-related technology has arisen as an issue as Japan's economy has reached high levels of technological sophistication.

Although the Japanese often use similar definitions of issues in U.S.-Japan defense relations, the conclusions they draw from them sometimes differ from those of the Americans. Also, the Japanese see defense policy as a major fiscal and political issue having important bearing on the level of support in Japan for the ruling Liberal Democratic Party and a fundamental impact on the kind of society that has arisen in Japan since World War II.

After a brief assessment of the major determinants of the sometimes divergent U.S.-Japanese views of Japanese defense policy, this paper examines key issues in Japanese defense policy that are of interest to the U.S. Congress and the Reagan Administration. They include Japanese defense roles and missions; Japanese defense spending; joint planning and exercises; Japanese financial support for U.S. forces in Japan; and Japanese transfer of militarily useful technology to the United States. In each case, the paper first notes U.S. proposals for greater Japanese defense efforts and the resulting Japanese response.

## II. The Security Situation in Northeast Asia and the Northwest Pacific

Japanese defense policies and the defense issue in Japan-U.S. relations are set against the background of a security situation in Northeast Asia and the Northwest Pacific that has undergone changes since 1975. These changes have ended the post-World War II era of U.S. dominance and have produced for now a more complex set of factors.

The first change is that of the emergence of the Soviet Union as a significant military power in the region. Soviet air and sea forces are formidable assets for the defense of Soviet Asia, and they are believed to have attack capabilities in the waters and air space extending several hundred miles out, including the area around Japan.[1] A second element of change has been the continuing Sino-Soviet dispute and emerging Sino-U.S. entente, which pre-date 1975. After that date, though, China has tried to influence the countries of East Asia and the United States to take a strong anti-Soviet stance. China has supported efforts in the region to strengthen military capabilities against the Soviet Union.

A third development was the revelation in 1979 that the North Korean army was much larger in manpower and armaments that was previously believed. This, plus recent North Korean belligerent behavior, has made Korea a focal point of concern over regional security.[2]

Finally, U.S. forces in the region have undertaken new mission responsibilities not only in the region but also far afield, especially in the Indian Ocean and Persian Gulf. A program to modernize these forces has enhanced their capabilities and flexibility, but questions remain as to whether or not they could handle a multiple contingency, war-fighting situation.[3]

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[1] Garrity, Patrick J. Soviet Policy in the Far East. Military Review, December 1982. p. 28-29. Supplement on the Soviet Navy. U.S. Naval Institute Proceedings, October 1982. Whole issue.

[2] Gabriel, Richard A. (ed.) Fighting Armies. Westport, Connecticut, Greenwood Press, 1983. Chapters on North Korea and South Korea.

[3] U.S. Congress. Senate. Committee on Foreign Relations. East-West Relations: Focus on the Pacific. Hearings, 97th Congress, 2d session, 1982. See statements by Under Secretary of State Walter Stoessel and Under Secretary of Defense Fred Ikle.

## III. FACTORS INFLUENCING JAPANESE VIEWS ON DEFENSE AND SECURITY

Japan's democratic political environment produces a variety of institutions and groups whose views help shape defense policy. Within the government, this includes the ruling Liberal Democratic Party (LDP) and the ministries where senior bureaucrats wield great power and where the Finance Ministry is the most influential in a hierarchy of ministerial power. Other important groups are big business, the opposition parties, newspapers, and intellectuals. The general public influences policy through the political process and frequent public opinion polls.

Current discussion of defense policy in Japan is influenced by four traditional themes that have dominated Japanese attitudes toward defense since World War II: (1) post-war pacifism, as embodied in Article IX of the 1947 constitution—the famous "no war" clause; (2) reliance on the United States for defense; (3) the perceived absence of an external military threat; and (4) the primacy of economic growth especially in terms of allocation of government resources. Consequently, there was for years little sentiment in Japan for strengthening the Japanese Self-Defense Forces (SDF) beyond the manpower and weaponry levels authorized in 1954 when the SDF was established. The government also placed various constraints on the SDF in terms of missions and armaments.

Recently, there have emerged a set of new factors which interact with the traditional ones and tend to weaken them—but only to a degree. They are: (1) the influence of a younger, more nationalistic generation of Japanese who have no memories of World War II; (2) the view by the government of the Soviet Union as a "potential threat" to Japan because of the U.S.S.R.'s military buildup in the Northwest Pacific; (3) the influence of China's anti-Soviet policies especially on leftist political parties and groups; and (4) a stronger sense of Japan's dependence on overseas supplies of energy and natural resources and thus its potential vulnerability to any disruption in such supplies.[4]

## IV. THE DEFENSE ISSUE IN U.S. PERCEPTIONS OF JAPAN

The defense issue has been a major component of U.S. relations with Japan especially since the Soviet invasion of Afghanistan in December 1979. The Carter and Reagan Administrations have called for Japan to strengthen its armed forces and cooperate more militarily with the United States. The issue has been intense in certain bilateral exchanges between the two governments. However, five years of hindsight reveal that defense issues have been subordinate in importance to trade questions as problem areas in U.S.-Japan relations. In addition, U.S. criticism of Japanese defense policy increasingly has been moderated by the recent broader trends in Japanese foreign policy and their relationship with the United States.

When Washington pushed for greater Japanese defense efforts in December 1979, Japan was maintaining a low, non-assertive profile in international affairs. Five years later, Japan had modified that role diplomatically and economically, mainly in cooperative with the United States or with goals that run parallel with those of Washington. The Reagan Administration has reacted favorably to Japan's shift. It has emphasized Japan's status as an ally and the development of a close alliance relationship. Japan's importance also has risen in the context of the Reagan Administration's growing emphasis on U.S. ties with the countries of the Pacific Basin.[5]

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[4] U.S. Library of Congress. Congressional Research Service. Japanese Attitudes Toward Defense and Security Issues. Report No. 81-158F, by Larry A. Niksch. Washington, 1981.

## V. JAPANESE DEFENSE ROLES AND MISSIONS

### A. U.S. PROPOSALS

The proposals of the Reagan Administration for greater Japanese defense responsibilities have remained the same as those enunciated to the Japanese in early 1981. The Administration wants Japan to develop its Self-Defense Forces (SDF) into a conventional force strong enough to undertake a major role in the defense of the Japanese home islands and the Northwest Pacific in the event of a non-nuclear or limited war with the Soviet Union.

U.S. proposals call on Japan to assume primary responsibility for three elements of defense strategy for the Northwest Pacific: [6]

1. *Sea control*: Japan would be responsible for control of a large area of the Northwest Pacific. This zone would encompass the waters between Japan and the Bashi Channel which divides Taiwan and the Philippines, swinging southwest to Guam, and north from Guam to Japan. Japan would develop offensive and defensive assets for use against Soviet submarines, surface ships, and aircraft.

2. *Straits control*: Japan would be able to mine and blockade the Tsushima, Tsugaru, and Soya straits connecting the sea of Japan with the open waters of the Pacific, thus preventing access by Soviet naval vessels from bases in eastern Siberia into the Pacific.

3. *Air defense*: Japan would establish an air defense screen across the home islands that could inflict heavy losses on Soviet long-range bombers, fighter bombers, and tactical fighters operating from Siberia.

At the Japan-U.S. Security Conference in Hawaii in June 1981, the U.S. delegation outlined a military force structure that it said would be adequate to fulfill such tasks including: 14 squadrons (350) of F-15 interceptor aircraft, 70 destroyers, 25 submarines, and 125 P-3C anti-submarine aircraft.[7]

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[5] For analyses of the Reagan Administration's "tilt" toward Japan, see: Nations, Richard. Pax Pacifica: the Reagasone Prosperity Plan. Far Eastern Economic Review, July 14, 1983. pp. 55-58. See also the analysis of Robert Oxnam, President of the Asia Society, in the Asian Wall Street Journal, December 1, 1983; and Jonathan Broder's analysis in the Philadelphia Inquirer, July 4, 1983. See also, Secretary of State Shultz's speech before the Honolulu Council on Foreign Relations, July 18, 1984.

[6] Washington Times, December 14, 1983. Secretary of Defense Weinberger stated at the National Press Club that a Japanese military buildup "would extend Japan's self-defense perimeter to include the major sea lanes of the northwest Pacific paralleling Japan's outlying island territories almost to Guam and to the waters north of the Philippines." See also the letter of Commander James Auer, Assistant for Japan, Department of Defense, in the Asian Wall Street Journal, September 9-10, 1983.

[7] Christian Science Monitor, June 29, 1981; Kyodo News Service, June 16, 1981; Baltimore Sun, June 30, 1981.

Secretary Weinberger declared in March 1982 that Japan should attain this approximate force level by 1990. He declared that such a buildup "will require substantial improvements in military capabilities . . . and increases in defense spending substantially greater than the current annual growth rate." U.S. officials who accompanied the Secretary told reporters that Japanese defense expenditures would have to rise at least 10 percent annually in real terms (minus the inflation factor), probably at least 15 percent in current terms, to achieve this goal.[8]

U.S. officials also have pressed Japan to strengthen the logistics end of the force structure. They have cited inadequate quantities of ammunition, spare parts, and fuel as a major deficiency of the SDF.[9] They have pointed out privately that Japan's existing force structure would be much more potent if it has an adequate logistics base. An American proposal at the Hawaii conference reportedly called for the Self-Defense Forces to establish a three-month supply of ammunition (bullets, missiles, and torpedoes).

### B. JAPAN'S ACCEPTANCE OF BROADENED ROLES AND MISSIONS

The Japanese government has accepted the concept of broadened responsibilities for defense along the lines proposed by the United States. Prime Minister Zenko Suzuki took two such actions during his visit to Washington in May 1981. He stated in a speech that: "Our defense efforts will now cover several hundred nautical miles of our surrounding waters and 1,000 miles of sea lanes from our shores." He also asserted in a joint communique with President Reagan that Japan and the United States should establish an "appropriate division of roles" to ensure peace and stability in the Far East, and he promised "even greater efforts for improving its (Japan's) defense capabilities in Japanese territories and in its surrounding sea and air space."

Prime Minister Nakasone endorsed the Suzuki statements during his visit to the United States in January 1982. He declared in an interview with the Washington Post that Japan should develop effective air defenses against the Soviet Backfire bomber, and should be able to close off the Sea of Japan straits to the Soviets and to defend sea lanes to Guam and the Taiwan area.[10]

### C. JAPAN'S FORCE BUILDUP PLANS

Japan's most substantive response to U.S. proposals and pressures has been seen in the implementation of two overlapping five-year defense plans covering the period 1980–1987. The plans (1980–84 and 1983–87) have an ambiguous status; they were approved by the Cabinet-level National Defense Council but are described as internal Japanese Defense Agency (JDA) estimates rather than official government plans. (The government has decided to upgrade the plan for 1986–1990 to an official government plan.) They call for stepped-up procurement of front-line weapons and equipment for all elements of the SDF. The Japan Defense Agency has used the plans as the basis for the formulation of its annual budget requests. It has viewed them a way to bridge the gap between existing defense policy and U.S. desires by creating a modern force capable of carrying out some of the missions proposed by the United States. The agency has been only partly seccussful in carrying out the plans in the face of competing priorities in the Japanese government.

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[8] New York Times, March 27, 1982.

[9] See, for example, the statement by Admiral Robert Long, U.S. Commander-in-Chief, Pacific, in the Asian Wall Street Journal, November 23, 1982. Long described shortages of fuel, ammunition, and missiles as "the major problem."

[10] Washington Post, January 19, 1983.

The major procurement and modernization goals of the two plans and the 1986–1990 plan combined are:

1. *Air defense*: The Air Self-Defense Force would modernize its ten squadrons of fighter interceptors. It would establish eight squadrons of F–15 fighters totaling 187. Approximately 100 F–4s would make up the remaining four squadrons. Japan would refurbish the F–4s by adding newer surface attack equipment and sophisticated air combat electronic equipment and missiles. Japan would replace five of the six antiquated Nike J surface-to-air missile batteries with Patriot missiles, and it would replace the old BADGE radar warning system with a new system under development. The Air Self-Defense Force would have 13 E–2C ("Hawkeye") early warning aircraft.

2. *Naval vessels*: The Maritime Self Defense Force would procure 22 destroyers and frigates, submarines, supply ships, and other assorted craft. Forty existing destroyers and frigates would be outfitted with U.S.-designed Tartar or Sea Sparrow surface-to-air missiles. The destroyer/frigate force would total 62. Submarines would total 16.

3. *Anti-submarine aircraft*: Japan would have a force of 100 P–3Cs, organized into 10 squadrons. Sixty-three anti-submarine helicopters would be added by 1987, including 20 ship-based helicopters. This would give the Maritime Self-Defense Force 48 land-based and 43 ship-based helicopters.

The five-year plans do not set specific goals for improvment of logistics, but the Defense Agency has established at least one commensurate target. The JDA and Prime Minister Nakasone disclosed in May 1983 that they would seek a buildup of ammunition stockpiles to a level adequate for one month of combat.[11]

TABLE 1.—WEAPONRY AUTHORIZED FOR PROCUREMENT AND THE AUTHORIZATION TARGETS OF THE FISCAL YEAR 1980–1984 PERIOD

| | Procurement goals fiscal year 1980–1984 | Actual procurement fiscal year 1980–1984 | Received by SDF as of July 1984 (estimate) |
|---|---|---|---|
| Ground SDF: | | | |
| Type 74 tanks | 301 | 324 | 270 |
| Type (155 mm) | 140 | 126 | (1) |
| Maritime SDF: | | | |
| Escorts (destroyers and frigates) | 16 | 14 | 10 |
| Submarines [2] | 5 | 5 | 5 |
| P–3C ASW aircraft | 37 | 32 | 13 |

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[11] The Daily Yomiuri, May 23, 1983; Interview with Prime Minister Nakasone on the NHK television network, May 16, 1983.

TABLE 1.—WEAPONRY AUTHORIZED FOR PROCUREMENT AND THE AUTHORIZATION TARGETS OF THE FISCAL YEAR 1980–1984 PERIOD—Continued

| | Procurement goals fiscal year 1980-1984 | Actual procurement fiscal year 1980-1984 | Received by SDF as of July 1984 (estimate) |
|---|---|---|---|
| Air SDF: | | | |
| F-15 interceptors | 77 | 87 | 40 |
| F-1 support fighters | 13 | 13 | (1) |
| E-2C early warning aircraft | 4 | 4 | 4 |
| C-130 transports | 12 | 6 | 0 |

[1] Not available.
[2] Japanese-designed Yushio and Uzushio class submarines, diesel powered.

Source: Yomiuri Shimbun, September 22, 1983, and Aviation Week and Space Technology, January 30, 1984, p. 21; International Institute for Strategic Studies. The Military Balance. Issues for 1980-81, 1981-82, 1982-83, 1983-84, and 1984-85.

In terms of quantity, the five-year plans provide little enhancement of capabilities, but technological capabilities will improve substantially. This will be the case even if, as now expected, fulfillment of the 1983-1987 plan is delayed for three years until 1990 (see the next section on Japanese Defense Spending). F-15 fighters and P3C anti-submarine aircraft are expected to remain as standard U.S. frontline weaponry well into the 1990s. The new Japanese surface ships and submarines will carry advanced weapons and electronics for anti-submarine operations, attacks on enemy surface ships, and air defense.[12] Moreover, even in terms of quantity, modern weaponry in the allied aresnal in the Northwest Pacific will grow appreciably when Japan completes this phase of buildup.

Japan undoubtedly will possess a much more credible defense capability for the home islands and the sea areas several hundred miles out. Some gaps may remain, especially in air defense southwest of the home islands along the Ryukyu island chain and in anti-submarine surveillance of the entire 1,000 mile zone. Nevertheless, Japanese forces will add considerably to the assets of the thinly-spread U.S. Seventh Fleet and the three U.S. F-15 squadrons in Okinawa.

## VI. JAPANESE DEFENSE SPENDING

A pattern has emerged since 1979 in which defense spending in yen has increased between 6.5 percent and slightly over 7.5 percent when inflation is included, and 2.0 to 4.8 in real terms (minus inflation). Real growth (minus inflation) is projected at 5.4 percent in the proposed FY 1985 budget.

TABLE 2.—JAPANESE DEFENSE BUDGETS FOR FISCAL YEAR 1980 THROUGH FISCAL YEAR 1985

| Fiscal year | Amounts in billions of yen (dollars according to prevailing exchange rate) | Percent of total budget | Percentage increase | Real growth (minus inflation) |
|---|---|---|---|---|
| 1980 | 2,230 ($9.30 billion) | 5.2 | 6.50 | 2.0 |
| 1981 | 2,400 ($11.10 billion) | 5.1 | 7.61 | 3.9 |
| 1982 | 2,586 ($11.75 billion) | 5.2 | 7.75 | 4.6 |

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[12] Bouchard, Joseph F. and Douglas Hess. The Japanese Navy. U.S. Naval Institute Proceedings, March 1984. p. 87-91.

TABLE 2.—JAPANESE DEFENSE BUDGETS FOR FISCAL YEAR 1980 THROUGH FISCAL YEAR 1985—Continued

| Fiscal year | Amounts in billions of yen (dollars according to prevailing exchange rate) | Percent of total budget | Percentage increase | Real growth (minus inflation) |
|---|---|---|---|---|
| 1983 | 2,754 ($11.48 billion) | 5.5 | 6.50 | 4.3 |
| 1984 | 2,935 ($12.50 billion) | 5.9 | 6.55 | 4.8 |
| 1985 | 3,137 ($12.50 billion) | 6.0 | 6.91 | 5.4 |

Source: Embassy of Japan

Conflicts between the Japanese Finance Ministry and the Defense Agency has marked the preparation of annual defense budgets. The Defense Agency has sought increases up to ten percent [13] annually in order to fulfill the procurement targets of the defense plans. The Finance Ministry has tried in most years to keep defense expenditure increases below six percent in line with the government's tight budget policies and sustained effort to reduce high budget deficits.

The handling of the FY 1984 defense budget (April 1984–March 1985) is illustrative. The JDA initially asked for 8.9 percent increase, but in July 1983 the Cabinet set a ceiling of 6.9 percent. The Finance Ministry in January 1984 presented a draft budget calling for a 5.1 percent rate of growth for defense. The Ministry deleted all funding for F-15s, P3Cs, and destroyers. Prime Minister Nakasone reportedly directed that the increase be set at 6.55 percent, which amounted to a 4.8 percent increase in real terms—minus inflation.[14] This action resulted in the restoration of most of the requested funds for the front-line weaponry.

It is noteworthy that the percentage increase in the FY 1984 defense budget exceeded that of any other budget category except foreign assistance. The Japanese attached considerable importance to this achievement in the face of an overall budget increase of 0.5 percent, the smallest since 1955. Overall spending exclusive of payments and bond issues and transfers to local governments, called the general expenditure (about $139 billion), actually decreased slightly. At the same time, defense outlays of about $12.5 billion at current exchange rates represented only about 5.9 percent of the total FY 1984 budget of about $215 billion. The difference between the 8.9 percent JDA estimate and the Finance Ministry recommendation of 5.1 percent was about $450 million.

The FY 1984 budget remained just under one percent of Gross National Product. Tokyo has followed a policy of keeping military expenditures under one percent of GNP since the mid-1960s, and this standard has become a symbolic measuring rod of Japanese defense policy.

The government increasingly has hedged on whether it will continue the one percent policy. Officials have spoken of possibly establishing a new standard that would allow for more flexibility in defense budgeting.[15] The 1986–1990 defense plan, upgraded in status, sets spending for the five years at 18.4 trillion yen, or about $76 billion. The government projects that this would push defense spending to 1.04 percent of GNP by 1990.[16] Nevertheless, Japanese governments have been reluctant to abandon the one percent policy because of the perceived political risk involved. A public opinion poll taken in November 1983 found that 71 percent of the respondents opposed defense expenditures exceeding this ceiling.[17] Past predictions that the policy would end have proven false.

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[13] Unless otherwise noted, all such percentages refer to increases in terms of current yen which take into account Japan's continued low rate of inflation.

[14] Kyodo News Service, January 25, 1984.

Japanese defense experts assert that the last two budgets indicate that Japan will not fulfill the targets of the second five year plan on schedule. A Defense Agency study completed early in 1983 reportedly concluded that military outlays would have to go up in the last four years of the plan by 10–12 percent in current yen amounts, or 7.3–9.8 percent in real terms, in order to reach the procurement goals by FY 1987.[18]

The JDA had planned to seek approximately a 20 percent fulfillment of the plan targets in each of the five years. This has not been achieved, and JDA officials estimate that the program will be only 43 percent complete after three years. As a result, the JDA presented an interim report to the National Defense Council in May 1984 which said in effect that the targets would have to be postponed to 1990 under a new five year plan for the 1986–1990 period.

The following table shows JDA requests for major weapons systems in FY 1983 and FY 1984 and the numbers actually approved for purchase for the Self-Defense Forces:

| Item | Japan Defense Agency requests, fiscal years 1983 and 1984 | Number authorized |
|---|---|---|
| Ground SDF | | |
| Type 74 tanks | 150 | 120 |
| 155mm SP howitzers | 60 | 36 |
| 203mm SP howitzers | 36 | 24 |
| 155mm towed howitzers | 64 | 58 |
| Maritime SDF | | |
| P-3C ASW aircraft | 21 | 15 |
| SH-3B ASW helicopters | 22 | 12 |
| Destroyers | 5 | 5 |
| Submarines | 2 | 2 |
| 8,000 ton supply ship | 1 | 1 |
| Air SDF | | |
| F-15 interceptors | 41 | 30 |
| F-1 support fighters | 6 | 6 |
| C-130 transports | 4 | 2 |

Source: Aviation Week and Space Technology, January 24, 1983, and January 30, 1984.

The JDA's budget strategy has aimed at squeezing maximum procurement of front-line weaponry out of defense funds. JDA and

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[15] Mainichi Shimbun, August 13, 1983. Statement by Finance Minister Takeshita; Kyodo News Service, January 30, 1984. Statement by Rokusuke Tanaka, Secretary General of the Liberal Democratic Party.

[16] Kyodo News Service, September 18, 1985.

[17] Mainichi Daily News, January 4, 1984.

[18] Japan's 1984 Defense Budget to Create Out-Year Problems. Aviation Week and Space Technology, August 15, 1983. p. 23; Kyodo News Service, November 23, 1983.

Finance Ministry officials have admitted that this has resulted in cuts in funding for logistics, operations and training.[19] JDA officials have voiced concern over the growing gap between the buildup of front-line equipment and lagging logistical support. JDA officials have stated that logistics will receive more emphasis in the FY 1985 budget and beyond.[20]

## VII. JOINT PLANNING AND EXERCISES

According to the Japan Defense Agency, Japan and the United States have made progress in joint planning under Guidelines set in 1978 for Japan-U.S. Defense Cooperation. An initial draft plan for combined operations in the event of an attack on Japan was completed in 1981, and it is being reviewed and updated continuously. The two governments have initiated a study on the defense of sea lanes as the next step in working out joint operations and division of responsibilities. A third study reportedly deals with cooperation to support U.S. operations in a Korean conflict.[21]

The scope of Japan-U.S. military exercises has expanded since 1980 and now involves all three branches of the SDF. The size of joint exercises has grown, and they are oriented toward scenarios of a Soviet attack. Examples of recent combined training include naval maneuvers in the Sea of Japan, air defense exercises emphasizing coordination between the Air Self-Defense Force and U.S. early warning aircraft, and air defense intercepts of penetrating enemy bombers.[22]

A U.S.-Japanese combined exercise on and around Hokkaido, Japan's northern-most island, in September-October 1983, was the biggest in recent history. Thirty thousand SDF personnel participated. The U.S. Seventh Fleet sent ten ships and two submarines. The Air Force reportedly sent F-15 fighters based on Okinawa. The operation was noteworthy for the size of the U.S. force commitment for an exercise emphasizing the defense of Hokkaido against an enemy attack. A later exercise on Hokkaido involved U.S. Marine units from Okinawa and the Ground SDF.[23] The largest naval drill to date took place in November 1984. Japan contributed 12 destroyers and three submarines for antisubmarine operations. Thirty U.S. ships, including three aircraft carriers, participated.[24]

## VIII. FINANCIAL SUPPORT FOR U.S. FORCES

Japan budgeted over $1.2 billion in FY 1984 for the maintenance of about 49,000 U.S. forces in the country. By contrast, West Germany contributed about $1.3 billion annually for approximately 250,000 American troops in that country.[25] (Of course, West Germany's defense budget is twice the size of Japan's, even though its population is half that of Japan and its economy is smaller. Thus, West Germany spends over 3 percent of its GNP on defense, compared to Japan's less that one percent.) Japan's contribution on a per capita basis ($23,000 per U.S. soldier) is the highest of any U.S. ally.[26] It makes up about 30 percent of the total incremental cost of maintaining U.S. forces there. The United States is responsible for the remainder and also for the entire cost of repair and servicing of Seventh Fleet units that have home ports in Japan. Total U.S. expenses in FY 1983 were $2.2 billion.[27]

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[19] Kyodo News Service, August 11, 1983; Nihon Keizai Shimbun, September 6, 1983.

[20] Kyodo News Service, May 15, 1983; The Daily Yomiuri (Tokyo), May 9 and May 17, 1984.

[21] Japan Defense Agency. Defense of Japan 1983. p. 206-209; Nations, Richard. Japan's Omnidirection if Now Dead and Gone. Far Eastern Economic Review, December 20, 1984. p. 27.

[22] Ibid.

[23] Asahi Evening News, November 23, 1984.

[24] Ibid.

[25] Washington Times, September 4, 1984.

The United States has asked Japan to supply about $300 million for new facilities at Misawa Air Base in northern Honshu to accommodate the deployment of two squadrons of U.S. F-16 fighters after 1985. This would amount to some 80 percent of the estimated added cost of deploying these units in Japan instead of in the United States.[28] The FY 1984 Japanese defense budget contains 18.2 billion yen ($80 million) as the first installment. This is the full amount requested by the JDA.

## IX. TRANSFER OF TECHNOLOGY

The United States and Japan signed an accord on November 8, 1983, which will allow Japan to provide military-related technology to the United States. The agreement established a Japan-U.S. commission to handle transfers. A Japanese government policy announced in 1976 bars the export of arms and equipment and technology used in the manufacture of weapons. The new agreement makes the United States an exception to the policy with regard to technology transfer. The agreement follows a decision by the Nakasone government in January 1983 to permit such transfers. The Reagan Administration had requested such an arrangement since 1981.

The benefits to the United States of such an arrangement have not been clearly explained. U.S. defense officials have not indicated specific items that the United States would like to acquire from Japan. American officials have said that they are interested in facilitating joint research and development of weapons.[29] Other experts, including representatives of Japanese "hi-tech" companies and U.S. advisers to the Defense Department, believe that Japan has advanced in a number of fields that could be of military value to the United States. These include precision guidance systems used for various kinds of missiles; electromagnetic absorbants and absorbant paints that could be used for "stealth" type aircraft; electronic equipment and integrated circuts; robotics; computers and fiber optics used in communications.[30]

Exchanges of technical information have begun to take place. A U.S. Defense Science Board visited Japan in late 1983, and a second Defense Department-sponsored group visited in July 1984. Both concentrated on Japanese electronics companies. Private talks between U.S. defense contractors and Japanese companies reportedly have started.[31]

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[26] U.S. Congress. House. Committee on Foreign Affairs. Subcommittee on Asian and Pacific Affairs and International Economic Policy and Trade. United States-Japan Relations. p. 433-434.

[27] Department of Defense.

[28] Ibid.

[29] Gregory, Gene. A Pre-Emptive Strike. Far Eastern Economic Review, February 17, 1983. p. 42-44.

[30] Asian Wall Street Journal, October 10, 1982; Nihon Keizai Shimbun, November 19, 1981; Christian Science Monitor, July 25, 1983; Christian Science Monitor, September 21, 1984.

Also, the Japan-U.S. commission established by the November 1983 agreement held its inaugural meeting in November 1984. It had no specific proposals of technology transfer to consider. However, the United States officially requested anti-missile defense technology in June 1985.

The extent and implications of such technology transfer are unanswered questions. The degree of Japanese commitment depends on attitudes of Japanese corporations and the Ministry of International Trade and Industry (MITI); MITI opposed the decision to enter into the November 1983 agreement.[32] This stemmed partly from Japanese fears that American firms would use Japan's technology for commercial purposes.

The Japanese attitude also could have been affected by increasing U.S. restrictions on the transfer of American technology to overseas users. The Japanese government was unhappy, for example, at the U.S. government's withholding of technology necessary for the manufacture of an advanced torpedo for anti-submarine warfare.[33] Such restrictions in relation to Japan reflect the view that U.S.-supplied technology through coproduction agreements could lead to the emergence of a Japanese defense industry that would compete with U.S. arms exporters in overseas markets, or to the application of such technology to Japanese civilian production, especially in the aircraft industry.[34] Some observers argue that U.S. proposals for joint development of weapons could provide an added incentive for Japan to move in these directions.[35]

Japanese defense industries have the potential to expand sigificantly and to export. Though small in comparison with the civilian sector, they produce sophisticated weapons, often with exclusively Japanese technology. Among the weapons produced or planned to be produced in this fashion are destroyers and frigates, the M-74 tank, the F-1 fighter and a planned successor, and a cruise missile scheduled for deployment around 1990. Japanese firms have introduced a few commercial spinoffs from military production, including a small business jet and a civilian helicopter.

Meanwhile, leaders of top Japanese business federations like Keidanren and Kansai have called for a reconsideration of the 1976 export ban on arms and military equipment.[36] This sentiment could grow, as the export potential of dual use technology expands, as the defense sector of Japanese industry enlarges, and as Japan looks for new product lines for export in the face of greater competition in existing product lines from the newly-industrialized countries of East Asia.

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[31] Asian Wall Street Journal, August 16, 1984.

[32] Tow, William. U.S.-Japan Military Technology Transfers: Collaboration or Conflict. Journal of Northeast Asian Studies, December 1983. p. 8-9, 12.

[33] Ibid., p. 8.

[34] For expressions of such fears, see U.S. General Accounting Office. U.S. Military Coproduction. Programs Assist Japan in Developing its Civil Aircraft Industry. Washington, GAO, 1982.

[35] Subcommittee on Asian and Pacific Affairs and International Economic Policy and Trade, United States-Japan Relations, p. 115.

[36] Ibid.

## X. Comprehensive Security

The concept of "comprehensive security" emerged in the 1970s as Japan's status as a global economic power led Japanese to discuss openly Japan's future role in the world. Official government circles gave it increased attention after the Soviet invasion of Afghanistan and the initiation of strong U.S. pressure on Tokyo regarding defense policy. Prime Minister Ohira set up a Comprehensive National Security Study Group composed of prominent businessmen, bureaucrats, and academics. It issued a report in 1980 which proposed a three-pronged approach to Japan's security emphasizing defense, diplomacy, and economic assistance. It urged a modest defense buildup within existing policy guidelines but went further in the other areas. The report proposed "the highest priority" for Japan-U.S. relations in Japanese diplomacy and that Japan should "support the United States strongly and forthrightly when it deserves Japan's support." It also called for "close relations" with other Western countries. Economically, the report stated that Japan should use its "economic power" to "contribute politically to the stability of the Korean Peninsula, Southeast Asia, and even the Middle East." [37]

It is evident that Prime Minister Nakasone has acted along the lines of these recommendations. Since becoming Prime Minister in November 1982, Nakasone has advocated openly a close Japanese alignment with the Western bloc. He has taken a number of diplomatic steps clearly different from the policies of his predecessors. These have included endorsement of the U.S. position in the dispute with the Soviet Union on intermediate range missiles in Europe; direct discussions with Moscow concerning the rising number of SS-20 missiles deployed in Soviet Asia; support for the U.S. operation in Grenada; cooperation with the United States, including the exchange of intelligence data, on the Soviet downing of the Korean airliner in September 1983, a more assertive diplomatic role in the Korean question, and efforts to mediate a settlement of the Iran-Iraq war.

Economically, Nakasone's most dramatic move has been the commitment of $4 billion in economic aid to South Korea over a five year period. He has followed initiatives by his predecessors in extending substantial economic assistance to strategically important countries in Southeast Asia (including, most recently, more aid to the Philippines), Southwest Asia, and the Middle East. Official development assistance rose by 8.9 percent and 7.9 percent respectively in the FY 1983 and FY 1984 budgets.

The following table shows 1982 disbursements of Japanese official development assistance to key countries in these regions:

[In millions of U.S. dollars]

| Country: | *Disbursements* |
|---|---|
| Indonesia | 389.3 |
| Philippines | 160.0 |
| Thailand | 189.3 |
| Pakistan | 107.6 |
| Turkey | 32.1 |

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[37] The Comprehensive National Security Group. Report on Comprehensive National Security. July 1980.

| | |
|---|---|
| Egypt | 72.4 |
| Jordan | 12.4 |

Source: Agency for International Development's Congressional Presentations for FY 1985 to Congress: Annexes on Asia and Near East.

## XI. Conclusions

The contentious nature of the defense issue in Japan-U.S. relations has declined, particularly since Prime Minister Nakasone came to power in 1983. Nakasone's comprehensive security policies appear to be partly responsible for this. Since mid-1983, Reagan administration officials have praised these kind of Japanese initiatives. These officials have expressed a perception that Japan is moving to establish itself as an increasingly active and supportive ally of the United States, rather than an inert actor. Some members of Congress have also adopted a more positive view of Japanese defense efforts, though others remain critical of what they see as the slow pace of Japan's military buildup.

Within this context, several specific Japanese moves on defense issues appear to have satisfied the Reagan Administration, even though Japanese actions have fallen short of earlier U.S. proposals. These moves have included the acceleration of defense planning and joint exercises, the greater emphasis on procurement of front line weaponry (which now is entering the SDF), and increased Japanese spending to support U.S. forces in Japan. Even with respect to defense budgets, negative U.S. perceptions of Japanese spending limits, including the one percent of GNP limit, are now balanced by steady rise in real growth in military expenditures to a level much higher than those of several Western European countries.

The new U.S. attitude was particularly evident in the testimony given in hearings on Japan held by Asian and trade subcommittees of the House of Representatives in May and June 1984. Assistant Secretary of State Paul Wolfowitz spoke of "significant progress . . . in the area that forms the centerpiece of our vision of the future of U.S.-Japan relations . . . international political and economic cooperation." [38] He asserted that the U.S.-Japan defense relationship "has never been better." [39]

Assistant Secretary of Defense Richard Amritage referred to "positive movement" in Japanese defense policy under Prime Minister Nakasone. He spoke more favorably of Japan's five year defense plans than Administration officials had in the past. He stated that fulfillment of the plan targets by 1990 and major improvements in logistics/combat sustainability would constitute "a quantum jump in Japan's capability to meet its defense goals including sea-lane defense within this decade." [40]

A number of potential developments could revive U.S.-Japanese friction and defense issues, including new Soviet aggression in Asia or elsewhere, a war in Korea, a spillover from an intensified Tokyo-Washington dispute over trade, and a Japanese reversion to past policies under Nakasone's successor. Nevertheless, the outlook for the next two years is for U.S. criticism to remain at a low level, a continuation of the present pace of the Japanese military buildup, and more bilateral cooperation in areas like planning and exercises.

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[38] U.S. Congress. House. Subcommittees on Asian and Pacific and Committee on Foreign Affairs. Subcommittees on Asian and Pacific Affairs and International Economic Policy and Trade. United States-Japan Relations. Hearings, 98th Congress, 2d session, 1984. Washington, U.S. Government Printing Office, 1984. p. 316-350.

[39] Ibid.

[40] Ibid., p. 423-435.

# Appendix.—INDICATORS OF JAPANESE AND U.S. ECONOMIC AND INDUSTRIAL PERFORMANCE SINCE 1970

### By R. Kevin Flaherty

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TABLE A. Nominal Gross National Product

| | Japan | | United States |
|---|---|---|---|
| Year | ¥ billion | $ billion 1/ | $ billion |
| 1984 | 292,795 | 1,180.9 | 3,661.3 |
| 1983 | 274,639 | 1,156.3 | 3,304.8 |
| 1982 | 264,775 | 1,063.1 | 3,069.3 |
| 1981 | 251,999 | 1,142.6 | 2,957.8 |
| 1980 | 235,834 | 1,040.1 | 2,631.7 |
| 1979 | 218,894 | 998.9 | 2,417.8 |
| 1978 | 202,708 | 963.3 | 2,163.9 |
| 1977 | 184,368 | 686.6 | 1,918.3 |
| 1976 | 165,695 | 558.7 | 1,718.0 |
| 1975 | 147,874 | 498.2 | 1,549.2 |
| 1974 | 133,922 | 459.4 | 1,434.2 |
| 1973 | 112,441 | 413.1 | 1,326.4 |
| 1972 | 92,313 | 299.7 | 1,185.9 |
| 1971 | 80,522 | 229.6 | 1,077.6 |
| 1970 | 73,128 | 203.1 | 992.7 |

1/ Converted from yen using the corresponding average exchange rates for each year (see table N). The changes in GNP from one year to the next that appear in this column reflect changes in the annual average exchange rate as well as changes in current-value GNP.

Sources: International Monetary Fund. International Financial Statistics. April 1985. Washington, 1985. p. 278, 480. 1984 GNP of Japan: Embassy of Japan, Washington.

TABLE B. Nominal Gross National Product per Capita

|  | Japan |  | United States |
|---|---|---|---|
| Year | ¥ 1000 | dollars 2/ | dollars |
| 1984 1/ | 2,455 | 9,902 | 15,613 |
| 1983 | 2,319 | 9,696 | 14,093 |
| 1982 | 2,235 | 8,975 | 13,226 |
| 1981 | 2,142 | 9,712 | 12,868 |
| 1980 | 2,019 | 8,906 | 11,558 |
| 1979 | 1,889 | 8,621 | 10,743 |
| 1978 | 1,764 | 8,383 | 9,743 |
| 1977 | 1,622 | 6,040 | 8,710 |
| 1976 | 1,468 | 4,955 | 7,879 |
| 1975 | 1,325 | 4,466 | 7,254 |
| 1974 | 1,216 | 4,170 | 6,785 |
| 1973 | 1,034 | 3,800 | 6,320 |
| 1972 | 861 | 2,796 | 5,695 |
| 1971 | 762 | 2,172 | 5,226 |
| 1970 | 701 | 1,947 | 4,658 |

1/ 1984 statistics based on mid-1983 population estimates.

2/ Converted from yen using the corresponding annual average exchange rates.

Sources: International Monetary Fund. International Financial Statistics. April 1985. Washington, 1985. p. 278, 480. 1984 GNP for Japan: Embassy of Japan, Washington.

TABLE C. Annual Growth of Real Gross National Product

| | Japan | | United States | |
|---|---|---|---|---|
| Year | Growth Index (1980 = 100) | Growth Rate | Growth Index (1980 = 100) | Growth Rate |
| 1983 | 110.7 | 3.0% | 104.0 | 3.7% |
| 1982 | 107.4 | 3.3 | 100.3 | -2.1 |
| 1981 | 104.0 | 4.0 | 102.5 | 2.5 |
| 1980 | 100.0 | 4.8 | 100.0 | -0.3 |
| 1979 | 95.4 | 5.2 | 100.3 | 2.9 |
| 1978 | 90.7 | 5.1 | 97.5 | 5.0 |
| 1977 | 86.3 | 5.4 | 92.9 | 5.6 |
| 1976 | 81.9 | 5.3 | 88.0 | 5.4 |
| 1975 | 77.8 | 2.4 | 83.5 | -1.2 |
| 1974 | 76.0 | -1.2 | 84.5 | -0.6 |
| 1973 | 76.9 | 8.8 | 85.0 | 5.7 |
| 1972 | 70.7 | 8.9 | 80.4 | 5.7 |
| 1971 | 64.9 | 4.6 | 76.1 | 3.4 |
| 1970 | 62.0 | 9.9 | 73.6 | -0.2 |

Source: International Monetary Fund. International Financial Statistics Yearbook 1984. Washington, 1984. p. 365, 597.

TABLE D. Annual Unemployment Rates 1/

| Year | Japan 2/ | United States |
|---|---|---|
| 1984 | 2.8% | 7.3% |
| 1983 | 2.7 | 9.6 |
| 1982 | 2.4 | 9.7 |
| 1981 | 2.2 | 7.6 |
| 1980 | 2.0 | 7.1 |
| 1979 | 2.1 | 5.8 |
| 1978 | 2.3 | 6.0 |
| 1977 | 2.0 | 7.0 |
| 1976 | 2.0 | 7.7 |
| 1975 | 1.9 | 8.5 |
| 1974 | 1.4 | 5.6 |
| 1973 | 1.3 | 4.9 |
| 1972 | 1.4 | 5.6 |
| 1971 | 1.3 | 5.9 |
| 1970 | 1.2 | 4.9 |

1/ Civilian labor force.

2/ Adjusted according to the U.S. definition.

Source: U.S. Bureau of Labor Statistics.

TABLE E-1. Annual Inflation Indexes (1980 = 100)

| | Japan | | United States | |
|---|---|---|---|---|
| | Wholesale Prices | Consumer Prices | Wholesale Prices | Consumer Prices |
| 1984 | 100.7 | 112.1 | 115.4 | 126.1 |
| 1983 | 100.9 | 109.6 | 112.7 | 120.9 |
| 1982 | 103.2 | 107.7 | 111.3 | 117.1 |
| 1981 | 101.4 | 104.9 | 109.1 | 110.4 |
| 1980 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1979 | 84.9 | 92.6 | 87.7 | 88.1 |
| 1978 | 79.1 | 89.4 | 77.9 | 79.2 |
| 1977 | 81.2 | 86.1 | 72.3 | 73.6 |
| 1976 | 79.7 | 79.7 | 68.1 | 69.1 |
| 1975 | 75.9 | 72.9 | 65.1 | 65.3 |
| 1974 | 73.7 | 65.2 | 59.6 | 59.8 |
| 1973 | 56.0 | 52.4 | 50.1 | 53.9 |
| 1972 | 48.4 | 46.9 | 44.3 | 50.8 |
| 1971 | 48.0 | 44.9 | 42.4 | 49.1 |
| 1970 | 48.4 | 42.3 | 41.1 | 47.1 |

Source: International Monetary Fund. International Financial Statistics. April 1985. Washington, 1985. p. 279, 479.

TABLE E-2. Annual Inflation Rates

| Year | Japan | United States |
|---|---|---|
| 1984 | 2.3% | 4.3% |
| 1983 | 1.8 | 3.2 |
| 1982 | 2.7 | 6.1 |
| 1981 | 4.9 | 10.4 |
| 1980 | 8.0 | 13.5 |
| 1979 | 3.6 | 11.2 |
| 1978 | 3.8 | 7.6 |
| 1977 | 8.0 | 6.5 |
| 1976 | 9.3 | 5.8 |
| 1975 | 11.8 | 9.2 |
| 1974 | 24.4 | 10.9 |
| 1973 | 11.7 | 6.1 |
| 1972 | 4.5 | 3.5 |
| 1971 | 6.1 | 4.2 |
| 1970 | 7.6 | 5.8 |

Source: Table E-1, Consumer Price Indexes.

TABLE F. Average Interest Rates

| | Japan | | | United States | | |
|---|---|---|---|---|---|---|
| Year | Discount Rate 1/ | Call Money Rate | Government Bond Yield | Discount Rate 1/ | Federal Funds Rate | Long-term Government Bond Yield |
| 1984 | 5.00% | 6.10% | N.A. | 8.00% | 10.23% | 12.48% |
| 1983 | 5.00 | 6.39 | 7.42% | 8.50 | 9.09 | 11.34 |
| 1982 | 5.50 | 6.94 | 8.06 | 8.50 | 12.26 | 12.92 |
| 1981 | 5.50 | 7.44 | 8.66 | 12.00 | 16.38 | 13.72 |
| 1980 | 7.25 | 10.93 | 9.22 | 13.00 | 13.36 | 11.39 |
| 1979 | 6.25 | 5.86 | 7.69 | 12.00 | 11.20 | 9.33 |
| 1978 | 3.50 | 4.36 | 6.09 | 9.50 | 7.93 | 8.49 |
| 1977 | 4.25 | 5.68 | 7.33 | 6.00 | 5.54 | 7.67 |
| 1976 | 6.50 | 6.98 | 8.72 | 5.25 | 5.05 | 7.87 |
| 1975 | 6.50 | 10.67 | 9.20 | 6.00 | 5.85 | 8.19 |
| 1974 | 9.00 | 12.54 | 9.26 | 7.75 | 10.50 | 8.06 |
| 1973 | 9.00 | 7.16 | 7.26 | 7.50 | 8.73 | 7.12 |
| 1972 | 4.25 | 4.72 | 6.70 | 4.50 | 4.43 | 7.12 |
| 1971 | 4.25 | 6.42 | 7.28 | 4.50 | 4.66 | 6.12 |
| 1970 | 6.00 | 8.29 | 7.19 | 5.50 | 7.18 | 6.86 |

1/ Rate at end of year.

Note: For Japan, the discount rate is the rate at which the Bank of Japan lends to Japanese banks; for the United States, it is the rate the Federal Reserve Bank of New York charges on loans to Federal Reserve member banks. The call money rate in Japan and the federal funds rate in the United States represent short-term money market rates. The government bond yields for both countries are indicative of long-term lending rates; for Japan these data represent the average yield accruing to all government bonds with seven years to maturity, while the U.S. series refers to 20-year constant maturities.

Source: International Monetary Fund. International Financial Statistics. April 1985. Washington, 1985. p. 279, 479.

TABLE G. Personal Savings Rates 1/

| Year | Japan | United States |
|---|---|---|
| 1982 | 17.7% | 6.2% |
| 1981 | 19.7 | 6.7 |
| 1980 | 19.2 | 6.0 |
| 1979 | 18.7 | 5.9 |
| 1978 | 20.6 | 6.1 |
| 1977 | 21.0 | 5.9 |
| 1976 | 22.4 | 6.9 |
| 1975 | 22.1 | 7.4 |
| 1974 | 23.7 | 7.3 |
| 1973 | 20.5 | 7.8 |
| 1972 | 18.0 | 6.2 |
| 1971 | 17.5 | 8.1 |
| 1970 | -- 2/ | 8.0 |

1/ Personal savings as a percentage of personal disposable income. For Japan, includes the savings and disposable income of private unincorporated non-financial enterprises.

2/ Data before 1971 not comparable; household sector then defined differently for Japan.

Sources of U.S. data: Council of Economic Advisers. Economic Indicators. October 1984. p. 6. (1972-1982 data.) U.S. Bureau of Economic Analysis. Survey of Current Business. July 1973. p. 12. (1971 datum.) July 1972. p. 25. (1970 datum.)

Sources of Japanese data: Bank of Japan. Statistics Department. Economic Statistics Annual. 1983 edition. Tokyo. p. 347, 348. (1976-1982 data.) 1981 edition. p. 337, 338. (1974-1975 data.) 1978 edition. p. 315, 316. (1971-1973 data.) 1977 edition. p. 315, 316. (1970 datum.)

TABLE H. Household Financial Assets, December 31, 1982

| Category | Japan<br>Amount (¥ bill.) | Japan<br>As % of Disposable Income 1/ | United States<br>Amount ($ bill.) | United States<br>As % of Disposable Income |
|---|---|---|---|---|
| Demand Deposits and Currency | 49,794.9 | 26.6% | 312.5 | 14.3% |
| Demand Deposits | 32,627.8 | 17.4 | -- | -- |
| Currency | 17,167.1 | 9.2 | -- | -- |
| Time and Savings Deposits | 218,807.7 | 117.0 | 1,461.7 | 67.0 |
| Large Time Deposits | -- | -- | 163.8 | 7.5 |
| Small Time and Savings Deposits | -- | -- | 1,297.9 | 59.5 |
| Money Market Fund Shares | -- | -- | 206.6 | 9.5 |
| Insurance/ | 59,632.7 | 31.9 | | |
| Life Insurance Reserves | | | 244.6 | 11.2 |
| Trusts/ | 28,346.6 | 15.2 | | |
| Pension Fund Reserves | | | 931.7 | 42.7 |
| Credit Market Instruments | 42,059.2 | 22.5 | 821.4 | 37.7 |
| Corporate Equities | 6,989.0 | 3.7 | 1,306.2 | 59.9 |
| Security Credit | -- | -- | 27.7 | 1.3 |
| Miscellaneous | 1,518.1 | 0.8 | 82.2 | 3.8 |
| Total Financial Assets | 407,148.2 | 217.6 | 5,394.5 | 247.4 |
| Total Financial Liabilities | 117,860.3 | 63.0 | 1,173.3 | 53.8 |
| Net Worth | 289,287.9 | 154.6 | 4,221.2 | 193.6 |

( -- ) means not reported in sources used.

1/ Disposable personal income for 1982. ¥187,086.1 for Japan and $2,180.5 billion for the United States. (Bank of Japan. Economic Statistics Annual 1983. p. 348. Council of Economic Advisers. Economic Indicators. December 1984. p. 6.)

Sources of assets data: Nomura Research Institute. Manual of Securities Statistics. 1984 edition. Tokyo, 1985. p. 267. Board of Governors of the Federal Reserve System. Annual Statistical Digest 1982. Washington, 1983. p. 118.

Table I-1. Annual Net Growth of Internal and External
Funds for Nonfinancial Enterprises
(in billions of yen/dollars and percent)

| | Net Increases in Funds from Internal Sources | | | | Net Increases in Funds from External Sources 1/ | | | |
|---|---|---|---|---|---|---|---|---|
| | Japan | | U.S. | | Japan | | U.S. | |
| Year | ¥ Bill. | % of Total Change | $ Bill. | % of Total Change | ¥ Bill. | % of Total Change | $ Bill. | % of Total Change |
| 1982 | 6,385.0 | 59.2% | 234.3 | 75.8% | 4,395.9 | 40.8% | 75.0 | 24.2% |
| 1981 | 5,917.9 | 36.4 | 230.4 | 63.3 | 10,323.4 | 63.6 | 133.8 | 36.7 |
| 1980 | 7,334.1 | 47.2 | 189.5 | 56.5 | 8,193.0 | 52.8 | 145.7 | 43.5 |
| 1979 | 5,383.9 | 26.6 | 188.8 | 54.7 | 14,824.4 | 73.4 | 156.4 | 45.3 |
| 1978 | 4,852.7 | 60.3 | 175.7 | 55.3 | 3,189.2 | 39.7 | 141.8 | 44.7 |
| 1977 | 4,402.7 | 84.0 | 157.4 | 61.9 | 840.2 | 16.0 | 96.7 | 38.1 |
| 1976 | 4,418.7 | 37.6 | 134.2 | 63.6 | 7,338.2 | 62.4 | 76.8 | 36.4 |
| 1975 | 3,116.3 | 26.5 | 119.7 | 76.2 | 8,625.9 | 73.5 | 37.3 | 23.8 |
| 1974 | 3,841.7 | 31.3 | 85.6 | 45.0 | 8,446.4 | 68.7 | 104.7 | 55.0 |
| 1973 | 4,320.8 | 37.6 | 91.7 | 47.7 | 7,165.5 | 62.4 | 100.7 | 52.3 |
| 1972 | 3,700.8 | 44.4 | 85.0 | 56.1 | 4,634.5 | 55.6 | 66.6 | 43.9 |
| 1971 | 2,919.4 | 32.6 | 73.5 | 58.7 | 3,108.4 | 34.7 | 51.8 | 41.3 |
| 1970 | 2,934.2 | 34.2 | 61.8 | 60.4 | 5,635.2 | 65.8 | 40.5 | 39.6 |

Notes: Percentages represent shares of total net increases in internal plus external funds.

Japanese data are based on surveys of principle enterprises, excluding financial and insurance enterprises, with over ¥ 1 billion in capital. U.S. data are for nonfinancial corporate businesses, excluding farms.

Japanese data are for Japanese fiscal years (April 1 - March 31); U.S. data are for calendar years. For example, the 1970 data refer to the twelve months preceding April 1, 1971, for Japan, but the twelve months preceding January 1, 1971, for the United States.

1/ For Japan, ("borrowed capital") + ("increase in capital stock"). For the United States, "net increase in liabilities."

Sources: Board of Governors of the Federal Reserve System. Sector Statements of Saving and Investment. Unpublished data, December 4, 1984. Bank of Japan. Economic Statistics Annual. 1972 edition, p. 241; 1974 edition, p. 245; 1975 edition, p. 254; 1979 edition, p. 287; 1983 edition, p. 260.

TABLE I-2. Annual Net Growth of Funds for Nonfinancial
Enterprises from Internal Sources 1/
(In billions of yen/dollars and percent)

| | Depreciation | | | | Retained Earnings | | | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Japan | | U.S. | | Japan | | U.S. 3/ | | Japan | U.S. |
| Year 2/ | ¥ Bill. | % of Total Change | $ Bill. | % of Total Change | ¥ Bill. | % of Total Change | $ Bill. | % of Total Change | ¥ Bill. | $ Bill. |
| 1982 | 5,285.9 | 49.0% | 207.1 | 67.0% | 1,099.1 | 10.2% | 20.2 | 6.5% | -- | + 07.0 |
| 1981 | 4,938.8 | 30.4 | 189.5 | 52.0 | 979.1 | 6.0 | 55.9 | 15.3 | -- | - 15.0 |
| 1980 | 4,378.6 | 28.2 | 167.8 | 50.1 | 2,955.5 | 19.0 | 60.7 | 18.1 | -- | - 39.0 |
| 1979 | 3,872.3 | 19.2 | 147.7 | 42.8 | 1,511.6 | 7.5 | 82.8 | 24.0 | -- | - 41.7 |
| 1978 | 3,556.6 | 44.2 | 129.2 | 40.7 | 1,296.1 | 16.1 | 72.0 | 22.7 | -- | - 25.5 |
| 1977 | 3,286.1 | 62.7 | 114.3 | 45.0 | 1,116.6 | 21.3 | 59.5 | 23.4 | -- | - 16.4 |
| 1976 | 3,177.8 | 27.0 | 103.6 | 49.1 | 1,240.9 | 10.6 | 49.9 | 23.6 | -- | - 19.3 |
| 1975 | 2,969.4 | 25.3 | 93.8 | 59.7 | 146.9 | 1.3 | 40.9 | 26.1 | -- | - 15.0 |
| 1974 | 2,452.6 | 20.0 | 78.7 | 41.4 | 1,389.1 | 11.3 | 39.1 | 20.5 | -- | - 32.2 |
| 1973 | 2,315.3 | 20.2 | 67.2 | 34.9 | 2,005.5 | 17.5 | 35.3 | 18.3 | -- | - 10.8 |
| 1972 | 2,171.4 | 26.1 | 62.0 | 40.9 | 1,529.4 | 18.3 | 22.1 | 14.6 | -- | + 0.9 |
| 1971 | 2,014.7 | 22.5 | 56.8 | 45.3 | 904.7 | 10.1 | 15.3 | 12.2 | -- | + 1.4 |
| 1970 | 1,802.0 | 21.0 | 51.8 | 50.6 | 1,132.2 | 13.2 | 10.3 | 10.1 | -- | - 0.3 |

Note: Percentages represent net increases in funds from the respective internal sources as percentages of total net increases in both external and internal funds.

1/ Japanese data are based on surveys of principle enterprises, excluding financial and insurance enterprises, with over ¥ 1 billion in capital. U.S. data are for nonfinancial corporate businesses, excluding farms.

2/ Japanese data are for Japanese fiscal years (April 1 - March 31); U.S. data are for calendar years. For example, the 1970 data refer to the twelve months preceding April 1, 1971, for Japan but the twelve months preceding January 1, 1971, for the United States.

3/ ("Domestic undistributed profits") + ("foreign earnings retained abroad")

Sources: Board of Governors of the Federal Reserve System. Sector Statements of Saving and Investment. Unpublished data, December 4, 1984. Bank of Japan. Economic Statistics Annual. Tokyo. 1972 edition, p. 241; 1974 edition, p. 245; 1975 edition, p. 254; 1979 edition, p. 287; 1983 edition, p. 260.

TABLE I-3. Annual Net Growth of Funds for Nonfinancial Enterprises from External Sources
(in billions of yen/dollars and percent)

| | Equity Issues | | | | Corporate Bonds | | | | Other Specified Debt Instruments 1/ | | | | Other 2/ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Japan | | U.S. | | Japan | | U.S. | | Japan | | U.S. | | Japan | U.S. |
| Year | ¥ Bill. | % of Total Change | $ Bill. | % of Total Change | ¥ Bill. | % of Total Change | $ Bill. | % of Total Change | ¥ Bill. | % of Total Change | $ Bill. | % of Total Change | ¥ Bill. | $ Bill. |
| 1982 | 1,250.0 | 11.6% | 11.4 | 3.7% | 1,046.8 | 9.7% | 18.7 | 6.0% | 2,733.1 | 25.4% | 51.3 | 16.6% | - 632.0 | - 6.4 |
| 1981 | 1,977.7 | 12.2 | - 11.5 | -- | 1,193.2 | 7.3 | 21.8 | 6.0 | 3,905.0 | 24.0 | 81.2 | 22.3 | 3,247.5 | 42.3 |
| 1980 | 1,210.3 | 7.8 | 12.9 | 3.8 | 598.1 | 3.9 | 26.7 | 8.0 | 3,453.4 | 22.2 | 51.3 | 15.3 | 2,931.2 | 54.8 |
| 1979 | 941.1 | 4.7 | - 7.8 | -- | 1,184.4 | 5.9 | 17.3 | 5.0 | 3,705.0 | 18.3 | 78.7 | 22.8 | 8,990.9 | 68.2 |
| 1978 | 831.3 | 10.3 | - 0.1 | -- | 672.5 | 8.4 | 21.1 | 6.6 | - 135.8 | -- | 59.5 | 18.7 | 1,866.2 | 61.3 |
| 1977 | 568.7 | 10.8 | 2.7 | 1.1 | 818.2 | 15.6 | 22.9 | 9.0 | 603.4 | 1.2 | 46.8 | 18.4 | - 1,150.1 | 24.3 |
| 1976 | 634.2 | 5.4 | 10.5 | 5.0 | 933.9 | 7.9 | 22.8 | 10.8 | 3,244.3 | 27.6 | 21.4 | 10.1 | 2,525.8 | 22.1 |
| 1975 | 890.0 | 7.6 | 9.9 | 6.3 | 1,522.5 | 13.0 | 27.2 | 17.3 | 5,416.2 | 46.1 | - 6.3 | -- | 797.2 | 6.5 |
| 1974 | 298.9 | 2.4 | 4.1 | 2.2 | 589.1 | 4.8 | 19.7 | 10.4 | 6,000.3 | 48.8 | 46.4 | 24.4 | 1,558.1 | 34.6 |
| 1973 | 156.7 | 1.4 | 7.9 | 4.1 | 614.6 | 5.4 | 9.2 | 4.8 | 3,952.4 | 34.4 | 39.6 | 20.6 | 2,441.8 | 44.1 |
| 1972 | 235.1 | 2.8 | 10.9 | 7.2 | 407.7 | 4.9 | 12.2 | 8.0 | 2,961.0 | 33.0 | 20.3 | 13.4 | 1,030.7 | 23.1 |
| 1971 | 287.5 | 3.2 | 11.4 | 9.1 | 565.6 | 6.3 | 18.8 | 15.0 | 4,041.6 | 45.1 | 7.0 | 5.6 | 1,153.6 | 14.6 |
| 1970 | 386.3 | 4.5 | 5.7 | 5.6 | 371.1 | 4.3 | 19.8 | 19.4 | 3,838.4 | 44.8 | 9.8 | 9.6 | 1,039.5 | 5.3 |

Note: Percentages represent net increases in funds from the respective external sources as percentages of total net increases in both external and internal funds. See "Notes," Table I-2, for definitions of periods and of nonfinancial enterprises.

1/ For Japan, ("short-term debt") + ("long-term debt"). For the United States, specified as comprising tax-exempt debt, mortgages, commercial paper, acceptances, finance company loans, U.S. Government loans, and bank loans not elsewhere classified.

2/ For Japan, trade payables and borrowed capital not specified: (total "borrowed capital") - ("short-term debt" + "long-term debt" + "corporate bonds"). For the United States, ("profit taxes payable" + "trade debt" + "foreign direct investment in the U.S.")

Sources: Board of Governors of the Federal Reserve System; Bank of Japan. See Table I-2.

TABLE J. Private Gross Fixed Capital Formation

| | Japan | | United States | |
|---|---|---|---|---|
| Year | Index (1975 = 100) | Percentage of GNP | Index (1975 = 100) | Percentage of GNP |
| 1983 | 157.4 | 19.8% | 241.9 | 14.7% |
| 1982 | 159.3 | 20.8 | 219.9 | 14.4 |
| 1981 | 156.5 | 21.5 | 228.4 | 15.5 |
| 1980 | 151.8 | 22.3 | 205.2 | 15.6 |
| 1979 | 139.4 | 22.0 | 203.8 | 16.9 |
| 1978 | 122.2 | 20.9 | 179.6 | 16.6 |
| 1977 | 113.7 | 21.3 | 150.1 | 15.7 |
| 1976 | 107.9 | 22.5 | 122.7 | 14.3 |
| 1975 | 100.0 | 23.4 | 100.0 | 13.1 |
| 1974 | 100.0 | 25.8 | 102.5 | 14.6 |
| 1973 | 87.0 | 26.8 | 100.8 | 15.5 |
| 1972 | 65.5 | 24.5 | 89.2 | 15.3 |
| 1971 | 59.1 | 25.4 | 73.5 | 14.0 |
| 1970 | 58.2 | 27.6 | 65.7 | 13.5 |

Sources: (Japan) Ministry of Finance. Research and Planning Division. Main Economic Indicators of Japan. (Enclosure.) Monthly Finance Review. July 1984. U.S. Bureau of Economic Analysis. Survey of Current Business. July issues, 1974, 1976, 1977, 1982, 1983, and 1984.

TABLE K. Federal Spending
(in billions of yen/dollars and percent)

| | Expenditures 2/ | | Fiscal Year GNP | | Expenditures as % of GNP | |
|---|---|---|---|---|---|---|
| Fiscal Year 1/ | Japan (¥ Bill.) | U.S. ($ Bill.) | Japan (¥ Bill.) | U.S. ($ Bill.) | Japan | U.S. |
| 1982 | 50,820 | 785.61 | 267,350.9 | 3,048.8 | 19.0% | 25.8% |
| 1981 | 48,467 | 718.60 | 254,694.2 | 2,884.8 | 19.0 | 24.9 |
| 1980 | 44,977 | 622.26 | 240,847.0 | 2,573.4 | 18.7 | 24.2 |
| 1979 | 40,588 | 524.71 | 222,043.1 | 2,362.5 | 18.3 | 22.2 |
| 1978 | 35,976 | 475.67 | 206,762.5 | 2,090.7 | 17.4 | 22.8 |
| 1977 | 30,509 | 423.75 | 188,804.3 | 1,864.2 | 16.2 | 22.7 |
| 1976 | 26,072 | 386.17 | 170,290.0 | 1,642.7 | 15.3 | 23.5 |
| 1975 | 22,367 | 346.63 | 151,797.0 | 1,480.5 | 14.7 | 23.4 |
| 1974 | 19,374 | 283.43 | 138,044.6 | 1,381.5 | 14.0 | 20.5 |
| 1973 | 14,688 | 260.61 | 177,257.9 | 1,255.2 | 12.5 | 20.8 |

1/ April-March for Japan; July-June for the United States through fiscal year 1976 and October-September since fiscal year 1977. The 1983 fiscal year, for example, ended March 31, 1984, for Japan and September 30, 1983, for the United States.

2/ Expenditures + lending - repayments.

Source of expenditures data: International Monetary Fund. Government Finance Statistics Yearbook 1984. Washington, 1984. p. 452, 829.

Sources of fiscal year GNP data: Bank of Japan. Economic Statistics Annual. Tokyo. 1983 edition, p. 337 (1976-1982 data); 1981 edition, p. 327 (1974-1975 data); 1979 edition, p. 335 (1971-1973 data), 1977 edition, p. 313 (1970 data). U.S. Department of Commerce. Bureau of Economic Analysis. From quarterly data published in the Survey of Current Business.

TABLE L. Budget Deficit as a Percentage of Gross National Product

| Fiscal Year 1/ | Japan | United States |
|---|---|---|
| 1983 | 4.9% | 5.9% |
| 1982 | 5.0 | 3.6 |
| 1981 | 5.1 | 2.0 |
| 1980 | 6.0 | 2.3 |
| 1979 | 6.0 | 1.2 |
| 1978 | 5.0 | 2.3 |
| 1977 | 5.2 | 2.4 |
| 1976 | 4.2 | 4.0 |
| 1975 | 3.9 | 3.1 |
| 1974 | 2.1 | 0.3 |
| 1973 | 0.6 | 1.2 |
| 1972 | 1.6 | 2.1 |
| 1971 | 1.3 | 2.2 |
| 1970 | 0.4 | 0.3 |

1/ April through March for Japan; July-June for the United States through fiscal year 1976 and October-September through fiscal year 1977. The 1983 fiscal year, for example, ended March 31, 1984, for Japan and September 30, 1983, for the United States.

Note: The two countries' series may not be strictly comparable because of accounting differences.

Source of Japanese statistics: Organisation for Economic Cooperation and Development. OECD Economic Surveys: Japan. July 1984. Paris, 1984. p. 32.

Source of U.S. GNP data: U.S. Department of Commerce. Bureau of Economic Analysis. From quarterly data published in the Survey of Current Business.

Sources of U.S. deficit data: Council of Economic Advisers. Economic Indicators. October 1984, p. 31, 32 (1972-1983 data); February 1980, p. 31, 32 (1970-1971 data).

### TABLE M. Federal Debt

| | Japan | | United States | |
|---|---|---|---|---|
| Fiscal Year 1/ | Debt at End of Fiscal Year (¥ billion) | Debt as % of Fiscal Year GNP | Debt at End of Fiscal Year ($ billion) | Debt as % of Fiscal Year GNP |
| 1983 | 139,584.7 | 50.2% | 1,381.9 | 42.9% |
| 1982 | 121,339.0 | 45.4 | 1,147.0 | 37.6 |
| 1981 | 106,832.0 | 41.9 | 1,003.9 | 34.8 |
| 1980 | 95,011.8 | 39.4 | 914.3 | 35.5 |
| 1979 | 77,553.9 | 34.9 | 833.8 | 35.3 |
| 1978 | 62,339.8 | 30.2 | 780.4 | 37.3 |
| 1977 | 46,097.8 | 24.4 | 709.1 | 38.0 |
| 1976 | 32,677.9 | 19.2 | 631.9 | 38.5 |
| 1975 | 22,795.2 | 15.0 | 544.1 | 36.8 |
| 1974 | 15,709.4 | 11.4 | 486.2 | 35.2 |
| 1973 | 13,154.4 | 11.2 | 468.4 | 37.3 |
| 1972 | 11,704.2 | 12.1 | 437.3 | 38.8 |
| 1971 | 7,605.6 | 9.1 | 409.5 | 39.7 |
| 1970 | 6,226.3 | 8.5 | 382.6 | 39.5 |

1/ April through March for Japan; July-June for the United States through fiscal year 1976 and October-September since fiscal year 1977. The 1983 fiscal year, for example, ended March 31, 1984, for Japan and September 30, 1983, for the United States.

Sources of Japanese debt data: Bank of Japan. Economic Statistics Monthly. June 1984. p. 125 (1983 datum). Bank of Japan. Economic Statistics Annual. 1983 edition. Tokyo, 1984. p. 227 (1970-1982 data).

Sources of U.S. debt data: Council of Economic Advisers. Economic Indicators. February 1980, p. 32; October 1984, p. 32.

Sources of Japanese fiscal year GNP data: Bank of Japan. Economic Statistics Monthly. p. 181 (1983 datum). Bank of Japan. Economic Statistics Annual. Tokyo. 1983 edition, p. 337 (1976-1982 data); 1981 edition, p. 327 (1974-1975 data); 1979 edition, p. 335 (1971-1973 data), 1977 edition, p. 313 (1970 datum).

Source of U.S. fiscal year GNP data: U.S. Department of Commerce. Bureau of Economic Analysis. From quarterly data published in the Survey of Current Business.

TABLE N. Annual Average Exchange Rates

| Year | Yen per U.S. dollar |
|---|---|
| 1984 | 247.94 |
| 1983 | 237.52 |
| 1982 | 249.05 |
| 1981 | 220.54 |
| 1980 | 226.74 |
| 1979 | 219.14 |
| 1978 | 210.44 |
| 1977 | 268.51 |
| 1976 | 296.55 |
| 1975 | 296.80 |
| 1974 | 291.51 |
| 1973 | 272.19 |
| 1972 | 308.00 |
| 1971 | 350.74 |
| 1970 | 360.00 |

Source: International Monetary Fund. International Financial Statistics Yearbook 1984. Washington, 1984. p. 363. International Financial Statistics. February 1985. p. 277.

TABLE O. Imports and Exports of Merchandise as Percentages of Gross National Product

| | Japan | | United States | |
|---|---|---|---|---|
| Year | Imports as a Percentage of GNP | Exports as a Percentage of GNP | Imports as a Percentage of GNP | Exports as a Percentage of GNP |
| 1984 | N.A. | 13.8% | 8.9% | 6.0% |
| 1983 | 10.0% | 13.4 | 7.8 | 6.1 |
| 1982 | 11.3 | 13.0 | 7.9 | 6.9 |
| 1981 | 11.5 | 13.3 | 8.8 | 7.9 |
| 1980 | 12.4 | 12.5 | 9.3 | 8.4 |
| 1979 | 10.0 | 10.3 | 8.7 | 7.5 |
| 1978 | 7.4 | 10.1 | 8.1 | 6.6 |
| 1977 | 9.4 | 11.7 | 7.9 | 6.3 |
| 1976 | 10.4 | 12.0 | 7.3 | 6.7 |
| 1975 | 10.3 | 11.2 | 6.2 | 6.9 |
| 1974 | 11.9 | 12.1 | 7.0 | 6.9 |
| 1973 | 8.0 | 8.9 | 5.2 | 5.4 |
| 1972 | 6.7 | 9.5 | 4.7 | 4.2 |
| 1971 | 7.2 | 10.4 | 4.2 | 4.1 |
| 1970 | 7.7 | 9.5 | 4.0 | 4.4 |

Note: Imports at f.o.b. (free-on-board) value; exports at f.a.s (free-alongside-ship) value.

N.A.: F.o.b. value not yet published.

Source: International Monetary Fund. International Financial Statistics. April 1985. Washington, 1985. p. 278, 478, 480. 1984 Japanese GNP: Embassy of Japan.

TABLE P. U.S. Trade with Japan

| Year | Exports to Japan 1/ ($ million) | Percentage Change from Previous Year | Imports from Japan 2/ ($ million) | Percentage Change from Previous Year | Trade Balance ($ million) |
|---|---|---|---|---|---|
| 1984 | 23,575 | 7.7 | 57,135 | 38.7 | -33,560 |
| 1983 | 21,894 | 4.4 | 41,183 | 9.1 | -19,289 |
| 1982 | 20,966 | -3.9 | 37,744 | 0.2 | -16,778 |
| 1981 | 21,823 | 5.0 | 37,655 | 22.6 | -15,832 |
| 1980 | 20,790 | 18.3 | 30,714 | 16.3 | -9,924 |
| 1979 | 17,581 | 36.4 | 26,403 | 5.9 | -8,822 |
| 1978 | 12,885 | 22.4 | 24,933 | 34.4 | -12,048 |
| 1977 | 10,529 | 3.8 | 18,550 | 18.3 | -8,021 |
| 1976 | 10,145 | 6.1 | 15,683 | 37.3 | -5,538 |
| 1975 | 9,563 | -10.4 | 11,425 | -8.3 | -1,862 |
| 1974 | 10,679 | 28.5 | 12,456 | 28.7 | -1,777 |
| 1973 | 8,313 | 67.5 | 9,676 | 6.8 | -1,363 |
| 1972 | 4,963 | 22.4 | 9,064 | 24.9 | -4,101 |
| 1971 | 4,055 | -12.8 | 7,259 | 23.5 | -3,204 |
| 1970 | 4,652 | 33.3 | 5,875 | 20.2 | -1,223 |

Notes: Revised data used if presented. F.a.s., or Customs, value does not include overseas insurance and freight or import duties.

1/ Domestic and foreign merchandise, f.a.s. basis.

2/ General imports, Customs-value (f.a.s.) basis.

Source: U.S. Bureau of the Census. Highlights of U.S. Export and Import Trade, FT-990. December issues, 1975-1984.

Table Q. U.S. and Japanese Balances of Merchandise Trade with Selected Countries, Groups, and Regions, 1980 and 1983 (in millions of dollars)

| | Japan | | United States | |
|---|---|---|---|---|
| Region/Group/Country | 1980 | 1983 | 1980 | 1983 |
| World | -10,349.2 | 21,786.9 | -37,393.3 | -73,350.6 |
| Africa | 3,302.2 | 2,600.2 | -24,993.1 | -7,557.0 |
| Middle East 1/ | -31,021.2 | -17,856.2 | -7,829.9 | 4,108.1 |
| Oceana 2/ | -4,033.1 | -2,468.2 | 1,057.6 | 1,354.3 |
| European Economic Community | 9,470.3 | 10,847.7 | 13,596.3 | -3,619.1 |
| Communist Europe and Asia | 2,534.9 | 2,033.4 | 4,942.7 | 1,116.3 |
| Developed countries 1/ | 13,085.1 | 29,133.3 | -5,130.9 | -39,986.9 |
| Less developed countries 2/ | -26,028.6 | -9,488.1 | -41,580.2 | -40,611.7 |
| OPEC | -38,009.9 | -23,099.6 | -37,852.7 | -11,333.7 |
| ASEAN 3/ | -11,377.0 | -4,646.4 | -4,486.8 | -4,567.0 |
| East Asian newly industrializing countries 4/ | 11,768.0 | 12,661.2 | -4,706.6 | -13,497.3 |
| Canada | -2,285.6 | -752.0 | -8,217.7 | -15,906.6 |
| France | 739.2 | 725.1 | 1,773.7 | -580.8 |
| Hong Kong | 4,174.6 | 4,616.3 | -2,463.1 | -4,389.0 |
| Japan | -- | -- | -12,399.6 | -22,333.0 |
| South Korea | 2,369.0 | 2,632.2 | -24.8 | -1,965.1 |
| Taiwan | 2,848.0 | 2,458.3 | -3,180.5 | -7,813.6 |
| United Kingdom | 1,963.6 | 3,449.9 | 1,255.3 | -2,919.1 |
| United States | 7,201.1 | 18,547.0 | -- | -- |
| U.S.S.R. | 965.9 | 1,473.0 | 1,094.8 | 1,629.0 |
| West Germany | 3,260.4 | 3,481.7 | -1,929.7 | -5,048.3 |

---

1/ Canada, Western Europe, Japan, Australia, New Zealand, the Republic of South Africa, and the United States.

2/ All countries except the developed countries (footnote 3) and communist countries in Europe and Asia.

3/ Association of Southeast Asian Nations (Thailand, Philippines, Indonesia, Singapore, and Malaysia).

4/ South Korea, Taiwan, Singapore, and Hong Kong.

Source: United Nations Trade Data System.

TABLE R. U.S. Exports to Japan
by Selected Commodity, 1983 and 1984
(in millions of dollars)

| | 1983 | 1984 |
|---|---|---|
| TOTAL EXPORTS TO JAPAN | $21,894 | $23,575 |
| AGRICULTURAL COMMODITIES | 6,241 | 6,756 |
| NONAGRICULTURAL COMMODITIES | 15,279 | 16,337 |
| Food and live animals | 4,294 | 4,705 |
| Meat and meat preparations | 574 | 571 |
| Fish and fish products | 506 | 503 |
| Grain and cereal products | 2,493 | 2,873 |
| Wheat | 589 | 534 |
| Corn | 1,764 | 1,999 |
| Grain sorghums | 86 | 270 |
| Vegetables and fruit | 419 | 453 |
| Animal feed, excluding unmilled cereals | 159 | 173 |
| Beverages and tobacco | 442 | 399 |
| Unmanufactured tobacco | 338 | 286 |
| Cigarettes | 80 | 95 |
| Inedible crude materials | 4,185 | 4,452 |
| Hides and skins, except fur skins--undressed | 240 | 325 |
| Soybeans, except roasted as coffee substitute | 1,210 | 1,173 |
| Logs and lumber | 900 | 840 |
| Paper base stocks | 485 | 528 |
| Raw cotton, excluding linters and waste | 500 | 605 |
| Iron or steel waste and scrap | 218 | 265 |
| Nonferrous ores, excluding uranium and nonferrous scrap, NSPF | 309 | 364 |
| Mineral fuels, lubricants, and related materials | 1,944 | 1,812 |
| Bituminous coal | 1,002 | 865 |
| Petroleum and petroleum products | 639 | 683 |
| Animal and vegetable oils and fats | 62 | 53 |
| Chemicals and related products, NSPF | 2,607 | 2,961 |
| Chemical elements and compounds | 1,308 | 1,554 |
| Organic chemicals | 674 | 717 |
| Inorganic chemicals | 634 | 836 |
| Medicinals and pharmaceutical preparations | 521 | 553 |
| Fertilizers and fertilizer materials, NSPF | 110 | 122 |
| Synthetic resins and rubber or plastic material | 345 | 372 |
| Manufactured goods classified chiefly by material | 1,359 | 1,403 |
| Paper and paper products | 294 | 294 |
| Textile yarns, fabrics, and madeup articles | 98 | 113 |
| Nonmetallic manufactures, NSPF | 136 | 152 |

(continued)

TABLE R, continued. U.S. Exports to Japan
by Selected Commodity, 1983 and 1984
(in millions of dollars)

| | 1983 | 1984 |
|---|---|---|
| Nonferrous metals and alloys, wrought or unwrought | $413 | $379 |
| Aluminum and alloys, primary and mill shapes | 375 | 226 |
| Metal manufactures, NSPF | 191 | 207 |
| Machinery and transport equipment | 4,794 | 5,223 |
| Machinery | 3,251 | 3,896 |
| Power generating machinery | 517 | 617 |
| Aircraft engines and parts | 180 | 218 |
| Special purpose machinery | 497 | 634 |
| Agricultural machinery and parts, excluding tractor parts | 24 | 23 |
| Metalworking machinery | 68 | 77 |
| Heating and cooling equipment and parts | 80 | 79 |
| Centrifuges and filtering and purifying machines and parts | 58 | 48 |
| Office machinery and computers | 905 | 1,115 |
| Electronic computers and parts, excluding tape | 461 | 590 |
| Telecommunications, sound recording and reproducing equipment | 208 | 206 |
| Electrical machinery, apparatus, appliances, and parts | 738 | 930 |
| Electric power apparatus and switchgear | 141 | 173 |
| Transport equipment | 1,543 | 1,327 |
| Motor vehicles and parts | 145 | 191 |
| New passenger cars | 31 | 29 |
| Aircraft and spacecraft and parts | 1,345 | 1,073 |
| Commercial aircraft | 835 | 541 |
| Aircraft and spacecraft parts | 498 | 519 |
| Miscellaneous manufactured articles, NSPF | 1,367 | 1,479 |
| Clothing, excluding footwear | 44 | 43 |
| Professional, scientific, and controlling instruments, apparatus | 583 | 645 |
| Photographic supplies | 221 | 225 |
| Baby carriages, games, toys, and sporting goods | 114 | 89 |
| Musical instruments, parts, and accessories | 82 | 91 |
| Commodities and transactions not elsewhere classified | 121 | 204 |

Notes: Data are for domestic and foreign merchandise, including Department of Defense shipments. NSPF: not specifically provided for (not elsewhere classified).

Source: U.S. Bureau of the Census. Highlights of U.S. Export and Import Trade. FT-990. December 1983 and 1984 issues.

TABLE S. U.S. Imports from Japan
by Selected Commodity, 1983 and 1984 1/
(in millions of dollars)

| | 1983 | 1984 |
|---|---|---|
| TOTAL IMPORTS FROM JAPAN | $41,183 | $57,135 |
| AGRICULTURAL COMMODITIES | 169 | 220 |
| NONAGRICULTURAL | 41,014 | 56,915 |
| Food and live animals | 336 | 401 |
| Fish and fish products | 218 | 245 |
| Beverages and tobacco | 24 | 33 |
| Inedible crude materials, except fuels | 74 | 85 |
| Mineral fuels, lubricants, and related materials | 11 | 52 |
| Animal and vegetable oils and fats | 7 | 7 |
| Chemicals and related products, NSPF | 1,099 | 1,312 |
| Chemical elements and compounds | 547 | 628 |
| Organic chemicals | 433 | 515 |
| Inorganic chemicals | 114 | 114 |
| Medicinal and pharmaceutical products | 81 | 76 |
| Manufactured goods classified chiefly by material | 5,222 | 7,233 |
| Tires and tubes | 409 | 516 |
| Plywood and veneers | 43 | 44 |
| Paper and paper products | 71 | 90 |
| Textiles, yarn, fabrics, and related products | 582 | 671 |
| Glass, glassware, pottery, and china | 408 | 475 |
| Iron and steel mill products | 1,931 | 3,162 |
| Wire rods and bars | 338 | 495 |
| Plates and sheets | 1,013 | 1,598 |
| Tubes, pipes, and fittings | 421 | 788 |
| Nonferrous metals and alloys | 393 | 506 |
| Copper and alloys | 107 | 114 |
| Aluminum and alloys | 223 | 331 |
| Metal manufactures, NSPF | 1,089 | 1,349 |
| Machinery and transport equipment | 30,142 | 42,464 |
| Machinery | 15,323 | 24,537 |
| Power generating machinery, including engines | 834 | 1,262 |
| Agricultural machinery and tractors | 233 | 350 |
| Textile, sewing, and shoe machinery | 195 | 246 |
| Metalworking machinery | 613 | 891 |
| Office machinery and automatic data processing machines | 3,247 | 5,212 |

(continued)

TABLE S, continued. U.S. Imports from Japan
by Selected Commodity, 1983 and 1984
(in millions of dollars)

| | 1983 | 1984 |
|---|---|---|
| Telecommunications processing machines and sound apparatus | $5,697 | $8,868 |
| Television sets | 423 | 684 |
| Radio sets | 246 | 286 |
| Phonographs and audio and video recorders | 2,348 | 3,757 |
| Transport equipment | 14,818 | 17,928 |
| Autos, buses, trucks | 12,845 | 15,226 |
| New passenger cars | 10,294 | 12,293 |
| Motor vehicle parts, excluding engines, tires, electrical parts | 865 | 1,503 |
| Motorcycles and parts, NSPF | 741 | 662 |
| Aircraft and parts, NSPF | 138 | 130 |
| Miscellaneous manufactured articles, NSPF | 3,903 | 5,142 |
| Clothing and accessories; leather and fur articles, NSPF | 340 | 494 |
| Professional, scientific, and controlling instruments | 510 | 763 |
| Clocks, watches, and parts | 336 | 438 |
| Printed matter | 98 | 134 |
| Baby carriages, toys, games, and sporting goods | 306 | 391 |
| Commodities and transactions not elsewhere classified | 365 | 405 |

Notes: At f.a.s. (free-alongside-ship, or Customs) value. NSPF: not specifically provided for (not elsewhere classified).

Source: U.S. Bureau of the Census. Highlights of U.S. Export and Import Trade. FT-990. December 1983 and 1984 issues.

TABLE T. Research and Development Expenditures as a Percentage of Gross National Product

| | Japan | | United States | |
|---|---|---|---|---|
| Year | Total Expenditures | Non-Defense Expenditures | Total Expenditures | Non-Defense Expenditures |
| 1982 | N.A. | N.A. | 2.61% | 1.96% |
| 1981 | 2.36% | 2.34% | 2.43 | 1.87 |
| 1980 | 2.18 | 2.15 | 2.38 | 1.86 |
| 1979 | 2.06 | 2.05 | 2.27 | 1.75 |
| 1978 | 1.96 | 1.94 | 2.22 | 1.69 |
| 1977 | 1.93 | 1.92 | 2.23 | 1.67 |
| 1976 | 1.95 | 1.94 | 2.27 | 1.72 |
| 1975 | 1.96 | 1.95 | 2.27 | 1.68 |
| 1974 | 1.97 | 1.96 | 2.29 | 1.67 |
| 1973 | 1.90 | 1.89 | 2.32 | 1.62 |
| 1972 | 1.86 | 1.84 | 2.40 | 1.63 |
| 1971 | 1.85 | 1.84 | 2.48 | 1.68 |
| 1970 | 1.81 | 1.79 | 2.63 | 1.76 |

N.A.: not available.

Sources: National Science Foundation. National Patterns of Science and Technology Resources 1984. NSF 84-311. Washington, 1984. Tables 17 and 19, p. 37.

TABLE U. Non-Defense Research and Development Expenditures

| | Japan | | United States |
|---|---|---|---|
| Year | ¥ billion | $ million | $ million |
| 1982 | N.A. | N.A. | 60,158 |
| 1981 | 5,896.8 | 26,737 | 55,311 |
| 1980 | 5,070.4 | 22,362 | 48,950 |
| 1979 | 4,487.3 | 20,477 | 42,312 |
| 1978 | 3,932.5 | 18,688 | 36,570 |
| 1977 | 3,539.9 | 13,183 | 32,036 |
| 1976 | 3,214.5 | 10,839 | 29,550 |
| 1975 | 2,883.5 | 9,715 | 26,027 |
| 1974 | 2,624.9 | 9,004 | 23,951 |
| 1973 | 2,125.1 | 7,808 | 21,488 |
| 1972 | 1,698.6 | 5,514 | 19,330 |
| 1971 | 1,481.6 | 4,225 | 18,104 |
| 1970 | 1,309.0 | 3,635 | 17,472 |

N.A.: Not available.

Sources: Table T and International Monetary Fund. International Financial Statistics Yearbook 1984. Washington, 1984. p. 363, 365, 597.

TABLE V. Total Manufacturing Indexes
(1977=100)

| | Output | | Output Per Hour | | Unit Labor Costs a/ | |
|---|---|---|---|---|---|---|
| Year | Japan | United States | Japan | United States | Japan | United States |
| 1983 | 159.2 | 106.8 | 155.2 | 113.1 | 91.1 | 147.4 |
| 1982 | 150.0 | 99.1 | 146.8 | 106.5 | 93.2 | 148.5 |
| 1981 | 139.0 | 106.5 | 135.7 | 105.3 | 95.9 | 138.5 |
| 1980 | 130.7 | 103.5 | 128.6 | 101.7 | 94.2 | 130.5 |
| 1979 | 118.0 | 108.2 | 117.4 | 101.5 | 96.1 | 117.0 |
| 1978 | 107.3 | 105.3 | 107.9 | 100.8 | 98.2 | 107.4 |
| 1977 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1976 | 93.2 | 93.6 | 93.3 | 97.5 | 97.7 | 94.6 |
| 1975 | 82.2 | 85.4 | 85.3 | 93.4 | 100.1 | 91.5 |
| 1974 | 85.7 | 91.9 | 82.1 | 90.8 | 88.9 | 84.1 |
| 1973 | 87.4 | 95.9 | 80.2 | 93.0 | 69.4 | 74.2 |
| 1972 | 76.7 | 86.2 | 72.7 | 88.2 | 62.5 | 73.0 |
| 1971 | 69.4 | 78.7 | 65.3 | 83.9 | 60.2 | 72.7 |
| 1970 | 65.3 | 77.0 | 61.4 | 79.1 | 55.2 | 72.7 |

Note: The Japanese data relate only to wage and salary earners, whereas the U.S. data relate to the self-employed and to unpaid family workers as well.

a/ On national currency basis.

Source: U.S. Bureau of Labor Statistics. In Bureau of National Affairs. U.S. Manufacturers Outperformed Most Nations in Productivity, Labor Costs. Daily Labor Report. June 1, 1984. p. B-1 to B-16, Tables 2, 3, and 9.

TABLE W. Automobiles
(thousands of units)

| | Japan | | | United States | | |
|---|---|---|---|---|---|---|
| Year | Production | Exports | Imports | Production | Exports | Imports |
| 1984 | 7,073 | 3,981 | N.A. | 7,778 | 613 | 3,559 |
| 1983 | 7,152 | 3,806 | 37 | 7,112 | 537 | 3,691 |
| 1982 | 6,882 | 3,770 | 35 | 4,974 | 374 | 3,067 |
| 1981 | 6,974 | 3,947 | 32 | 6,280 | 538 | 2,999 |
| 1980 | 7,038 | 4,027 | 46 | 6,417 | 608 | 3,311 |
| 1979 | 6,176 | 3,116 | 65 | 8,418 | 779 | 3,006 |
| 1978 | 5,976 | 2,883 | 55 | 9,153 | 695 | 2,882 |
| 1977 | 5,431 | 2,778 | 41 | 9,294 | 697 | 2,791 |
| 1976 | 5,028 | 2,316 | 40 | 8,538 | 680 | 2,537 |
| 1975 | 4,568 | 1,594 | 45 | 6,741 | 640 | 2,075 |
| 1974 | 3,932 | 1,807 | 42 | 7,309 | 601 | 2,573 |
| 1973 | 4,471 | 1,451 | 37 | 9,667 | 509 | 2,437 |
| 1972 | 4,022 | 1,407 | 25 | 8,828 | 410 | 2,486 |
| 1971 | 3,718 | 1,299 | 19 | 8,558 | 387 | 2,587 |
| 1970 | 3,179 | 789 | 19 | 6,550 | 285 | 2,013 |

Notes: Data for automobiles refer to passenger cars, which in the case of Japan do not include station wagons or light trucks. N.A.: not available.

Sources of Japanese data: : Japan Automobile Manufacturers Association, Inc. Motor Vehicle Statistics of Japan. 1983 and 1984 editions. (Japan) Prime Minister's Office. Statistics Bureau. Japan Statistical Yearbook 1975. Japan Automobile Manufacturers Association, Inc., Washington, D.C. (1984 data).

Sources of U.S. data: U.S. International Trade Commission. The U.S. Automobile Industry: Monthly Report on Selected Economic Indicators. USITC Publication 1650. February 1985. (Exports and imports.) Automotive News. Market Data Book. Various editions. (Production.)

TABLE X. Raw Steel
(in thousands of short tons)

| | Production a/ | | Japanese Exports b/ | | Japanese Imports b/ | |
|---|---|---|---|---|---|---|
| Year | Japan | U.S. | to World | to U.S. | from World | from U.S. |
| 1983 | 107,105 c/ | 84,615 | N.A. | N.A. | N.A. | N.A. |
| 1982 | 109,733 | 74,577 | 2,808 | 244 | 1,030 | 1 |
| 1981 | 112,078 | 120,828 | 3,146 | 497 | 800 | 0 |
| 1980 | 122,792 | 111,835 | 4,354 | 429 | 576 | 19 |
| 1979 | 123,181 | 136,341 | 5,035 | 634 | 715 | 4 |
| 1978 | 112,551 | 137,031 | 4,881 | 513 | 165 | 51 |
| 1977 | 112,882 | 125,333 | 5,136 | N.A. | 176 | N.A. |
| 1976 | 118,387 | 128,000 | 6,249 | 862 | 123 | N.A. |
| 1975 | 112,780 | 116,642 | 7,011 | 810 | 76 | N.A. |
| 1974 | 129,115 | 145,720 | 8,372 | 914 | 147 | 3 |
| 1973 | 131,530 | 150,799 | 5,768 | 681 | 157 | N.A. |
| 1972 | 106,814 | 133,241 | 1,972 | 288 | 71 | N.A. |
| 1971 | 97,617 | 120,443 | 3,365 | 438 | 32 | N.A. |
| 1970 | 102,870 | 131,514 | 2,191 | 460 | 88 | 12 |

a/ "Raw steel"

b/ "Steel, primary forms"

c/ Reported figure.

Notes: Japanese export and import data converted from metric tons as reported to short tons by multiplying by 1.10231. Figures rounded; Japanese imports from U.S. actually 612 short tons in 1982 and 315 short tons in 1981.

Sources: U.S. Bureau of Mines. Minerals Yearbook, v. I, Metals, Minerals, and Fuels. 1970-1983 editions. U.S. Bureau of Mines. Minerals Yearbook, v. III, Area Reports: International. 1970-1983 editions.

TABLE Y. Pig Iron
(in thousands of short tons)

| | Production | | Exports | | Imports | |
|---|---|---|---|---|---|---|
| Year | Japan | U.S. | Japan a/ | U.S. | Japan a/ | U.S. |
| 1983 | 79,805 | 48,770 | N.A. | 6 | N.A. | 242 |
| 1982 | 85,603 | 43,342 | 67 | 54 | 1,522 | 322 |
| 1981 | 88,239 | 73,755 | 13 | 16 | 1,197 | 468 |
| 1980 | 95,946 | 68,699 | 16 | 73 | 862 | 400 |
| 1979 | 92,402 | 86,975 | 55 | 105 | 607 | 476 |
| 1978 | 86,629 | 87,690 | 36 | 51 | 705 | 655 |
| 1977 | 94,673 | 81,494 | 622 | 51 | 599 | 373 |
| 1976 | 95,434 | 86,848 | 161 | 58 | 644 | 415 |
| 1975 | 95,765 | 79,721 | 448 | 60 | 440 | 478 |
| 1974 | 99,690 | 95,477 | 79 | 101 | 1,467 | 342 |
| 1973 | 99,216 | 101,317 | 119 | 15 | 1,705 | 446 |
| 1972 | 81,632 | 88,876 | 421 | 15 | 1,107 | 637 |
| 1971 | 80,187 | 81,382 | 477 | 34 | 1,304 | 306 |
| 1970 | 75,011 | 91,293 | 1 | 310 | 3,146 | 249 |

a/ Japanese export and import data specified as including cast iron. These data converted from metric tons as reported to short tons by multiplying by 1.10231.

N.A.: not available in source used.

Sources: U.S. Bureau of Mines. Minerals Yearbook, v. I, Metals, Minerals, and Fuels. 1970-1983 editions. U.S. Bureau of Mines. Minerals Yearbook, v. III, Area Reports: International. 1970-1983 editions.

TABLE Z. Aluminum
(in thousands of short tons)

| | Production a/ | | Production Capacity | | U.S. Exports to Japan b/ | U.S. Imports from Japan c/ |
|---|---|---|---|---|---|---|
| Year | Japan | U.S. | Japan | U.S. | | |
| 1983 | 284 | 3,696 | 785 | 5,513 | 489 | 117 |
| 1982 | 390 | 3,609 | 785 | 5,498 | 494 | 88 |
| 1981 | 857 | 4,948 | 1,252 | 5,467 | 433 | 22 |
| 1980 | 1,203 | 5,130 | 1,437 | 5,503 | 627 | 10 |
| 1979 | 1,114 | 5,023 | 1,658 | 5,282 | 281 | 46 |
| 1978 | 1,166 | 4,804 | 1,803 | 5,197 | 178 | 62 |
| 1977 | 1,310 | 4,539 | 1,745 | 5,193 | 61 | 10 |
| 1976 | 1,013 | 4,251 | 1,627 | 5,193 | 92 | 30 |
| 1975 | 1,117 | 3,879 | 1,492 | 5,021 | 79 | 16 |
| 1974 | 1,232 | 4,903 | 1,434 | 4,916 | 91 | 19 |
| 1973 | 1,209 | 4,529 | 1,356 | 4,893 | 109 | 6 |
| 1972 | 1,119 | 4,122 | 1,260 | 4,744 | 50 | 9 |
| 1971 | 984 | 3,925 | 1,094 | 4,664 | 22 | 14 |
| 1970 | 808 | 3,976 | N.A. | 4,254 | 79 | 15 |

N.A.: not available in sources used.

a/ Primary production of unalloyed ingot.

b/ (Ingots and slabs, crude) + (plates, sheets, bars, etc.) + (scrap)

c/ (Metals and alloys, crude) + (plates, sheets, bars, etc.) + (scrap)

Note: 1981-1983 production data converted from metric tons as reported to short tons by multiplying by 1.10231.

Source of 1981-1983 production data: United Nations. Department of International Economic and Social Affairs. Monthly Bulletin of Statistics. August 1984.

Sources of other data: U.S. Bureau of Mines. Minerals Yearbook, V. I, Metals, Minerals, and Fuels. 1970-1983 editions.